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1. REPORT NUMBER AFIT/CI/NR 85-91D	**2. GOVT ACCESSION NO.**	**3. RECIPIENT'S CATALOG NUMBER**
4. TITLE (and Subtitle) Communication and Control in Organizations: Applying the Work of James Thompson and Gregory Bateson to Interpretive Research		**5. TYPE OF REPORT & PERIOD COVERED** THESIS/DISSERTATION
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Michael S. Wenger		**8. CONTRACT OR GRANT NUMBER(s)**
9. PERFORMING ORGANIZATION NAME AND ADDRESS AFIT STUDENT AT: Merton College, The University of Oxford		**10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS**
11. CONTROLLING OFFICE NAME AND ADDRESS AFIT/NR WPAFB OH 45433		**12. REPORT DATE** July 1985
		13. NUMBER OF PAGES 328
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office)		**15. SECURITY CLASS. (of this report)** UNCLASS
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

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17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

APPROVED FOR PUBLIC RELEASE: IAW AFR 190-1

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Professional Development
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19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

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ABSTRACT

COMMUNICATION AND CONTROL IN ORGANIZATIONS: APPLYING THE WORK OF JAMES THOMPSON AND GREGORY BATESON TO INTERPRETIVE RESEARCH

by
Michael S Wenger
Merton College, The University of Oxford
Submitted for the degree of Doctor of Philosophy
Trinity, 1985

This thesis presents an interpretive approach to organizational research. It is a report and analysis of ethnographic data collected during a one year field study of a private sector business organization in the United Kingdom. The primary theoretical bases are derived from an intensive and critical examination of the works of James Thompson and Gregory Bateson. Thus, the thesis addresses 'problems' at three interrelated levels: (1) It is an ethnographic monograph about a private sector business venture into the British defence market. (2) It is an explication, expansion, and application of the work of James Thompson and Gregory Bateson. (3) It is a treatise about the application of interpretive methods and theory to organizational research.

The thesis is presented in two parts. In the first part, the theoretical foundations are established. Specifically, Thompson's 'open-system' model of organization is critically examined and summarized as 'Model 1'. The widespread contributions of Gregory Bateson are brought together and likewise critically examined and codified as as 'Model 2'. The two models are delineated primarily in terms of assumptions about control and communication. Model 1 is shown to be based on an assumption of a transcendent managerial control hierarchy and a 'passive receiver' model of human communication. Under Model 1, patterned activity in the organization is assumed to be imposed by a transcendent hierarchy through communication. Model 2 reflects Bateson's 'cybernetic' epistemology and is founded on an 'immanence' assumption of control and an 'active receiver' model of human communication. Patterned activity in the organization is seen to be emergent from an unfolding process of human interaction and individual learning. Another characteristic of Model 2 is that it leads to an assumption that any perceived pattern in social activity is itself 'socially learned'. Thus, Model 2 is also a forum through which the research act is examined as a social process.

The two models are applied in the second part of the thesis by presenting the ethnographic record. The models serve as a basis from which a self-critical discourse can be developed. Model 1 is exploited to present several 'coherent' pictures of the organization as it is reflected in the data; Model 2 allows the introduction of multiple and conflicting interpretations offered by the actors themselves. Together, the two models allow a presentation which is compact and concise yet does not betray the overriding interpretive commitment to continually remain open to further interpretation.

DISSERTATION ABSTRACT

Title: COMMUNICATION AND CONTROL IN ORGANIZATIONS: APPLYING
           THE WORK OF JAMES THOMPSON AND GREGORY BATESON
                      TO INTERPRETIVE RESEARCH

Name: Michael S Wenger
Rank: Major
Branch: USAF
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Degree: Doctor of Philosophy
Date: July 1985
No. of pages: 328

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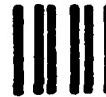
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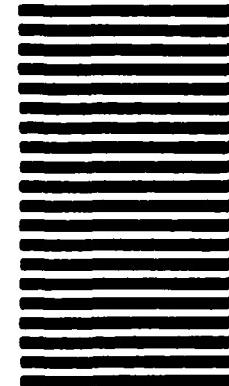
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TO INTERPRETIVE RESEARCH

Thesis submitted for the degree of

Doctor of Philosophy

at the

University of Oxford

MICHAEL S WENGER

Merton College

Trinity 1985

PREFACE

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PROLOGUE

SETTING THE STAGE

> Above all, anthropology should proceed, like good fieldwork, in full awareness of difference and contradiction. The inherent contradictions in the various theoretical approaches should be made explicit and used to elicit an implicit professional community. The ethics and methodologies of fieldwork should become 'transparent' to the creativity being studied. We should subordinate their assumptions and preconceptions to the inventiveness of the 'subject people,' so as not to preempt their creativity within our own invention.
>
> (Wagner 1975, p 159)

This thesis is a demonstration of an interpretive approach to organizational research. To a large degree, such interpretive research must attempt to make sensible the sense-making activities of the 'subject peoples' studied. This type of approach quickly drives the researcher into metaphysical questions of ontology and epistemology. An interpretive approach is, necessarily, 'philosophical' and can easily become mired in unsolvable conundrums. Yet, this research deals with the simplest of everyday experiences. Thus, there must be a constant interplay between complex philosophical debate and presentations of seemingly banal occurrences.

In this prologue, three vignettes are offered to introduce the major components of the research: the organization (DAE), some of the actors in the organization (including the researcher), some of the theoretical difficulties, and the type of interchanges which form 'the data'. The prologue is a necessary, initial reminder that this thesis is about everyday people doing everyday things. Questions of theory will come soon enough; this section is a touchstone to 'the real world'.

13 October 1983: A typical day.

The European directors of the parent firm were visiting DAE. In the morning, they were to be shown around the facilities and, in the afternoon, the local managers were to present the financial plan for the coming year. A researcher was spending the day with one of the local managers (Nigel). After discussing strategic planning in Nigel's office for approximately twenty minutes, the following episode took place.

Mike: So as I understand it, you don't really have to make a profit yet, do you?

Nigel: That's wrong actually. We're still evaluated by profit even if it's negative profit. Presently, we're on track to about £6m in revenue with a loss of £110,000. We had planned for a loss of about £170,000. Next year it's basically a break-even plan. We're plowing all of the profit that we could be making back into the business...Paying for more people with our profit...More people should lead to more revenue. So it should be a cyclic thing. Even though we're operating in an area of lots of unknowns.

Mike: Yes. To me, it looks like you're operating in an area of infinite uncertainty.

Nigel: Infinite uncertainty? Hmm, I hadn't thought of it like that. [pause] I suppose that everyone has their own goals and objectives...The more senior they are, then the more business oriented I'd hope those goals are. Ah, part of our way of dealing with the uncertainty is providing a framework for them to make their own goals.

Mike: Yes, that's one of the things that surprises me – that everyone, secretaries and clerical included seem to be profit aware. They all talk in terms of cost and profit.

Nigel: We do that purposely...They're all part of the face we present. Things like invoices and receivables getting out – things like that – on time. It all means money. It's an attitude and attitudes are probably generated by examples. If the first question is, 'How much does it cost?' then everyone begins to ask it. It becomes important.

9.37 The telephone rings. Nigel picks it up.

Nigel: Oh hello Bob...Yes...Yes...Would you like to send him over here?...OK. Do you want me to check with them at lunchtime? It might not be a bad thing to do. Just test the water with them...OK. Oh, yes. I'll get that number for you. Bye.

9.39 Nigel calls out to Edward in the office to his left, 'Edward, what's Colin's number?'

Edward: 209, I think.

Nigel: Thanks. [Dials telephone.] Colin? Nigel. Ah, do you have the sales figures we used on the [naval project?]...Good. Could you dig them up? Oh and could you put some priority on it? Thanks. [He hangs up the phone.]

Nigel: Sorry, Mike. Where were we?

Mike: I had just said I was surprised to find all members 'profit conscious'.

Nigel: Oh yes. That's a deliberate thing with us. For example, Donald or Margaret. They both see that what they do affects profits. Plus we all talk about it pretty much.

9.41 Colin comes into the office.

Colin: Oh, hi Mike. Sorry to interrupt. Nigel, is this the sheet you wanted? [He holds out a piece of paper.]

Nigel: [Squinting slightly to see better.] Yes.

Colin: OK. The mine and the fuze figure...For the mine, say XXX. for the fuze - YYY. That's a conservative estimate.

Nigel: Fine. Thanks Colin. [Colin leaves.] Mike, if you'll excuse me, I just have a little calculation to do.

9.45 Nigel sets to work with a pocket calculator. In the office to the right, Donald dials his telephone.

Donald: Hello Bob. I just got your note. This invoice isn't mine...Right, I think it's Sean's...Well, I can give you a copy with what I know on it...Right...Well, John's on his way over to your place now. I'll send it along with him. Right. Bye.

9.49 Just before Donald hangs up, Nigel completes his calculations and dials his telephone. He mutters 'Ah it's busy.' On the second try, the call goes through.

Nigel: Bob? It's Nigel. Here are those figures - market for the U.K. £XXX and potential export orders £YYY. And that's a conservative estimate...OK. Thanks. Bye.

Nigel hangs up the phone and looks up. He goes right back to the 'interview' topic.

Nigel: Yes, Mike, that's part of what we call goals, I suppose...It's a little bit difficult sometimes to keep people's eyes focused on the future.

21 October 1983: Dilemmas.

Colin: You must be finding out something with all the notes you take!

Mike: Yes, well, one thing I've discovered - the literature on organizational change talks about unfreezing and refreezing and the like. But after all that you've just told me, I'm beginning to think that it's morally wrong to write that way. If you think that way on the level of the organization, then you tend to forget that, at the level of the individual, you're fiddling with peoples' lives.

Colin: Good point! I can give you an example. About two months ago, I was told that we needed to hire two more engineers to meet our business plan. Our organization is growing and we need more people. But we all knew that [an acquisition] was coming. Besides, I didn't have enough work for me alone, real engineering work at any rate. Plus I had all the other insecurities I just told you about. I thought it was wrong to hire people into that situation. But we ran the advert anyway. Well now [that the acquisition has been confirmed] I've written 'hold' letters to all of the applicants to explain that the new location won't be where they thought it would be and are they still interested? That bought us, say, three weeks, but then what? [Points to the organization chart that we have been discussing.] I've got an organization I don't understand with a putative boss who doesn't see himself running my kind of projects and an unkown set of contracts. How can I hire people into that? You're right. It is a question of morality. [pause] But still, we have to.

9 November 1983: An interview and a cup of coffee.

The researcher was discussing the new organization chart with Edward in the office next to Nigel's. A tentative version of this chart had been circulating for several weeks, but it was now 'finalized'. Edward was among six managers whose new position was specified in the chart.

Mike: Well, are you comfortable with this version of the chart?

Edward: No! I'm more concerned than I was. Before, I was concerned because of my uncertainty. Now, I'm concerned by my certainty. And there are lots of confounding factors. I've been told to ignore this man, [He taps the chart to indicate who he is talking about.] but that may be underestimating him. And I've heard a rumour that this guy [Again taps the chart.] has a yen to get back into engineering, that he will waste no time in doing so.

Mike: OK. So why not just move your box up to this top line and make it a functional position?

Edward: I raised that with Nigel. I said wouldn't it be sensible and he smiled and said, 'Yes, it is extremely sensible - no.' So I got the impression that it had been discussed and for some reason it can't be. So, I'll see how the next six months go and then lobby for it again. Things can change so

much. And they have done, really...[pause of nearly 20 seconds] I'm dry let's get a cup of coffee.

[The remainder of this dialogue is a paraphrase, recorded approximately five minutes later.]

On the way over to the coffee machine.

Mike: Yes, one of the things that I've been so fortunate in here, is that in the past six months I've seen so much change.

Edward: You have indeed.

Mike: And then again, looked at in a different way, what has changed? You're still sitting at the same desk and talking to the same people. Nigel is. So's everyone. In a sense, nothing at all has changed.

Edward: Plus ca change, eh?...Well, it's a temporal thing. There will come a time when I won't be at this desk.

Mike: Then we're talking about change in the future?

Edward: That could be a definition of management.

Mike: Aren't you on shaky ground when you say that your job entails things that have never been and may never be?

Edward: Ah, yes. You're getting into the alternate futures bit...Oh. Hello Fiona.

At the coffee machine we meet Fiona, the secretary on this floor. After brief greetings, Fiona says that she overheard some of the things we had been talking about and it made her curious.

Fiona: So, Mike, I've never actually heard - what is your work all about anyway?

Mike: That's a simple one to answer - organizations.

Fiona: What? To make them better or what?

Mike: Well, not to improve them. At least not yet. I don't think I know enough yet to be able to tell you how you should be doing what you are doing. Besides, what do you mean by 'make them better?' More profitable? Better places to work? More stable? More flexible? There are lots of sub-arguments there that even if I really did know how to 'make organizations better', I'd just as soon not defend in an examination. For the time being, I'd be satisfied to understand what's going on. Actually, the fancy name for what I'm trying to do is 'thick description'.

Fiona: [Wrinkling her nose.] I can see why you don't want to defend 'improvement', but what does thick description mean?

Mike: I just want to understand what's going on, I suppose. So I'm studying, among other things, communication.

Fiona: [Laughing] Well, you certainly picked a silly place to do that, didn't he Edward?

Mike: Maybe so, but I don't think we're talking about the same kind of communication. You see, I still don't know how we talk to one another at all.

Fiona: What's the question there?

Mike: Well, you can only take it for granted if you've never thought about it. But stop a minute. We have an indefinite number of words that I can combine in a nearly infinite number of ways that you've never heard before. And yet, you still understand. You may take it for granted, but it rolls my socks down everytime I see it happen!

Fiona: Now that's a good example. I never heard that expression before, but I know what you mean. [pause] You know, it isn't just words. Two different people can say the same words and you get different meanings...It's tone of voice and...everything.

CHAPTER 1

INTRODUCTION

We need to ask why so many intelligent men and women in a
position to make the same observations we have been making
should continue to espouse patently incomplete views of com-
plex organizations...We can suggest now that rather than
reflecting weakness in those who use them, the two strategies
reflect something fundamental about the cultures surrounding
complex organizations - the fact that our culture does not
contain concepts for simultaneously thinking about rational-
ity and indeterminateness.

                    (Thompson 1967, pp 9-10)

There must be a reason why these questions have never been
answered. I mean, we might take that as our first clue to
the answer - the historical fact that so many men have tried
and not succeeded. The answer must somehow be hidden. It
must be so: That the very posing of these questions always
gives rise to a false scent, leading the questioner off on a
wild goose chase. A red herring.

                    (Bateson 1979, pp 226-227)

This thesis presents an interpretive approach to organiza-

tional research. It is a report and analysis of ethnographic

data collected during a one year field study of a private sector

organization in the United Kingdom (here given the fictitious

name DAE). The thesis develops the relationship between a quali-

tative methodology and an interpretive epsitemology and ontology.

By coupling these two aspects of interpretive research, it at-

tempts to answer an increasingly strong call within organization

theory for alternatives to the more common conventions of

structural-functionalism (Van Maanen 1979, Fineman and Mangham

1983, Putnam 1983, Morgan and Smircich 1980, Daft and Weick

1984).

In the thesis many problems at various levels will come to

light and will be discussed. However, throughout there will be

two overriding guides: one can be labelled the overall paradigmatic conviction and the other, the overall objective.

First, the basic philosophical position will remain firmly in the interpretive paradigm as delineated by Burrell and Morgan (1979, p 3). That is, the inquiry is generally guided by a nominalist ontology, an anti-positivist epistemology, and voluntarist notions of human nature. The basic assumption in this paradigm is that social reality is constructed by human actors who ascribe meaning to aspects of their world. This thesis is a search for such meanings and the resultant social realities. To paraphrase the wording offered by Harre (1979, p 237), the various models applied in this thesis have their common intersection in the assumption of the dominance of the expressive over the pratical in human affairs. Thus, the words and actions recorded during the twelve months of field study will be approached not as reflecting an unproblematic social reality but as a complex web of symbols pointing towards multiple possibilities.

The second panoramic guide for this thesis is the overall objective which is to describe, as completely as possible, DAE between June 1983 and May 1984 and, in doing so, to explore various ways of thinking and writing about organization. Thus qualitative methodology is linked to interpretive theory to explore as completely as possible, interpretive research. The thrust of the thesis is to rely upon the empirical data as an anchor for the exploration of the largely unexplored area in organization theory 'beyond open system models of organizations' (Pondy and Mitroff 1979).

To facilitate this endeavor, the writings of two eminent social theorists, James Thompson and Gregory Bateson, are critically examined and codified into two 'models' through which the

data are examined and presented. These two models serve as lexicons, value structures, and conceptual schemes to contain the overwhelming amount of 'raw data' developed through extensive field study. They also serve as foundations through which a continuous theoretical debate within the thesis can be developed. Therefore, the thesis as a whole addresses three interrelated 'problems': (1) It is an ethnographic monograph about a private sector business venture into the British defence market. (2) It is an explication, expansion, and application of the works of James Thompson and Gregory Bateson. (3) It is a treatise about the application of interpretive methods and theory to organizational research.

In this chapter, these three problems serve as a framework to introduce the thesis. Although the problems are discussed below in turn, this does not directly reflect the structure of the thesis. Rather, these three 'problems' are more accurately considered as three aspects of the thesis which are continuously and simultaneously addressed throughout the later chapters.

1.1 The thesis is an ethnographic monograph about a private sector business venture into the British defence market.

In presenting an ethnographic monograph, one must address questions about the field situation, methodology, theory, and the form of presentation (Spradley 1980). Each of these aspects of the ethnography is briefly introduced here.

1.1.1 The field situation.

The empirical referent of this research is the organization called DAE. This organization was established in 1980 through an investment by a wholly-owned British subsidiary of a large, American corporation and was charged with developing a major

corporate expansion into the British defence industry. The parent company mantains a large defence division in the United States, but until DAE came into existence, overseas defence operations consisted entirely of marketing parent company goods and services. DAE is the first venture into this new market area and was given a charter to develop an independent design and production capacity as well as to expand its independent marketing efforts. At the beginning of 1980, DAE consisted of three people with no revenue and negative profits. Over the next four years, more people were recruited, additional facilities were occupied, contracts were pursued, and a small, established British engineering firm was acquired. By the end of 1984, DAE consisted of approximately 450 people and attained revenues of over £15m with profits of approximately £250,000.

Much of this rapid growth came through the acquisition which was consummated late in 1983. However, the prior organizational growth (to approximately 35 people and £5m in revenue) was a critically important achievement both in developing initial market contacts and in building a core group of DAE members. It was through the efforts of this initial group that the acquisition target was identified, analysed, and eventually purchased.

DAE was the subject of intensive field study from June 1983 to May 1984. This time frame spanned the acquisition negotiations and a period of intense growth and rapid change. The primary focus of the research was the approximately 35 people who constituted DAE prior to the acquisition.

1.1.2 Method.

As Pettigrew (1973, p 268) has argued, the concept 'method' entails a collage of the observer, theory, technique, field

situation, and research objective. Clearly, to describe 'method' as a separable aspect of the thesis is to gloss over these inter-relationships. These various aspects of 'method' are difficulties which are continually discussed in later pages. In this section, 'method' is offered only for purposes of introduction. In Appendix A, method is more fully discussed.

Ethnographic methodologies in organization theory have rarely been applied to research in commercial operations (Hari Das 1983). Kanter (1977), Smircich (1983), and Pettigrew (1973) are three recent and obvious exceptions. However, it remains accurate to state that such research into commercial organizations is notably infrequent. One reason for this situation is that access to suitable field sites for lengthy periods of time and with sufficient investigative latitude, is often impossible to attain.

Whatever other problems and difficulties this thesis faces, 'access' was not one of them. Permission to extensively study the organization was freely granted on the two levels necessary for this type of research. First, 'official' permission was granted by the managing director and the senior managers to move freely among all members of the organization, ask questions unrestricted in topic, attend meetings, read documents, and participate in social events. No specific return was requested except an oral report when the thesis was completed. Second, a frequently overlooked but absolutely critical form of access was developed, with minor exceptions, at the personal level. Once the directors had sanctioned the presence of a researcher generally, it was up to each individual to decide when, where, and if they would participate in the research. Over the twelve month period, I was able to speak with most members of the original

organization and I nurtured close relationships with a group of specific informants. This group of informants consisted of approximately fifteen people at all levels of the organization who continually offered ideas, advice, comments, and support as they went about their organizational lives. Often, they went out of their way to tell me about specific events or meetings; several telephoned frequently to insure that I heard the latest news; and most initiated meetings when they believed they had something important to tell me and I had not initiated a meeting myself. In short, members at all levels of DAE were interested and active participants in the research.

Thus both tiers of access were achieved. 'Officially' I was allowed to be present and 'personally' the members chose to participate. Though my status in DAE was not unambiguous, I was essentially an 'insider' who was not on the payroll.

Describing fieldwork in terms of numbers is a difficult and inexact task. (When does a 'conversation' become an 'interview'? When does a 'spontaneous gathering' become a 'meeting'?) However, some idea of the scope of the research can be conveyed even though the quantification is imprecise. The main techniques for gathering data were semi-structured and unstructured interviews and observation. During the period of research, approximately 105 interviews were conducted with over 25 people at all levels in the organization. These interviews were scheduled, dyadic exchanges with various members of DAE which lasted from thirty minutes to four hours. Most of the interviews were conducted with the group of fifteen 'informants' and within this group, each interview was part of an on-going series of discussions with the individuals which were conducted throughout the year. In addition to the interviews, approximately 300 hours of observa-

tion were accomplished during the year. 'Observation' ranged from sitting in the central office through 'shadowing' various members through the day to sitting in during over twenty major, scheduled company meetings. The total research took place in various company locations, restaurants, public houses, and private homes.

The primary recording technique was to write notes by hand using a combination of shorthand, abbreviations, and longhand. Notes were transcribed into typewritten form usually within 24 hours. A tape recorder was used to dictate supplemental notes during private breaks from the actual research site. The tape recorder was used periodically as a primary recording technique, but with little success for several reasons. First, the tape recorder, unlike the notepad, was an unnatural presence in DAE. It clearly marked the researcher as 'different' from the normal activities. Second, taking notes by hand is more flexible during periods of extended observation. For example, in the central office, it was commonplace for very little activity to occur for hours and then suddenly and unexpectedly, brief but important actions would happen to be again supplanted by a long stretch of inactivity. A tape recorder moronically records long stretches of nothingness. Third, the human ear is a more subtle audic receiver than the microphone. It is possible to be ostensibly interviewing one person and yet hear and note other conversations in adjacent areas. Forth, along this same line, many occurrences of importance are not within a tape recorders range of percep- tion. Data such as facial expressions, who did not speak during a meeting, whose telephone just rang, and the like, are easily notable, if one has not developed a reliance upon a tape recorder as the primary technique of recording. Finally, as the research

progressed, the exchanges became increasingly personal, open revelations by the members. As the relationships between researcher and researched became more close, the discussions dealt with topics which might never have come up had a tape recorder been present.

For all of these reasons, the much more laborious technique of handwriting notes was used. The 'accuracy' of the tape recorder was foregone for sensitivity to a wider range of data and for the accuracy of disciplined note-taking. Specific wordings were checked with later speech patterns, details revealed in one interview were checked in relation to other sources, and previous statements became the subject of later interviews. During all conversations, the major objective in recording was to record the subjects' exact wording of specific phrases rather than paraphrase all of the utterances or even all of the topics discussed in the exchange (Wax 1971). Thus words presented in the dialogues are labelled either quotations, close paraphrases, or summaries.

These handwritten notes were supplemented by various documents including meeting agendas and minutes, policy letters, plans, management reports, company brochures, and travel reports. Further, 'unobtrusive measures' (Webb and Weick 1979) were exploited where possible. (For example, evaluating computer usage by counting data diskettes under each member's name, checking travel patterns by noting peoples' absence and following travel request paperwork, and reconstructing informal floorplan discussions from discarded layout plans.)

In the end, some 2000 typewritten pages of notes and documents were collected. The notes consist primarily of direct quotations or close paraphrases of the members' words and records

of specific occurrences, movements, and activities. These 2000
pages comprise the ethnographic record which is the empirical
cornerstone of the thesis.

1.1.3 Theory.

Qualitative data, such as the ethnographic record, is not by
itself enough to qualify this thesis as an example of interpre-
tive work in organization theory. It is possible to marry quali-
tative data with more functionalist theories of social organiza-
tion. This possiblity is demonstrated in many of the more common
forms of monographs which use similarly qualitative data to
explicate structural-functional models (Selznick 1966, Barnard
1938, Peters and Waterman 1982). From other paradigmatic posi-
tions, qualitative data, though collected during research, is
often treated as a mere by-product. That is, qualitative data is
used to supplement 'hard', 'scientific' data in the final pre-
sentation (for example, Cohen and March 1974, p xxi). As stated
above, this thesis is firmly rooted in the interpretive paradigm.
Thus, qualitative data, far from being supplementary, are the
very essence of the entire work.

The overall paradigmatic guidance for this thesis is an
interpretive approach. The specific models developed within this
general guidance derive from the work of James Thompson and
Gregory Bateson. The two theorists are introduced below in
section 1.2 and the interpretive basis of the thesis is more
fully discussed in section 1.3

1.1.4 The presentation.

Writing guided by the interpretive paradigm could easily
become bogged down in two ways. First, though interpretive work
is relatively new to mainstream organization theory, it has a

long and complex lineage in social theory, including many applications in sociology, anthroplogy, linguistics, social psychology, and philosophy. It would be possible to become mired in a long and complex literary survey tying interpretive organization theory to antecedents and parallel developments in other fields. This type of survey has been resisted primarily because it has already been accomplished by Burrell and Morgan (1979). Further, such a survey, while interesting in its own right, is of little direct importance here. This thesis is primarily a presentation of an ethnographic record and is not directly a philosophical or theoretical discourse. Therefore, rather than building all of the bridges possible to other work in other literatures, the theoretical focus remains on Thompson and Bateson. Some major similarities to other theories will be mentioned as the discourse is developed. However, these similarities are not of primary importance. It will be shown that, within the limitations of one study, Thompson, Bateson, and the ethnographic record provide an ample basis on which to build an interpretive presentation.

The thesis could also become bogged down in its own interpretive introspection. The interpretive paradigm leads to an assumption that no discourse (including this thesis) is either complete or neutral. (All discourse must be interpreted and all interpretations can be interpreted.) Thus, to remain internally consistent, interpretive discourse must leave itself open to interpretation. We are perilously close to solipsism and the interpretive writer could easily question the efficacy of his own writing to the point that no progress is possible. Again, relief from this possibility comes from the overall objective which is to present ethnographic description. The discourse itself is, by

interpretive assumptions, of a problematic status. Yet this must not be allowed to fatally hinder the presentation. The affect of this pressing difficulty is postponed by continual self-criticism throughout the text (Wagner 1975) and a brief 'deconstruction' (Norris 1982, Leitch 1983, Gowler and Legge 1984) presented in Chapter 8.

Given all that has been presented thusfar, the basic structure of the thesis can be introduced. The thesis is presented essentially in two parts. In the first part (Chapters 2-4), the theoretical apparatus is laid out through a detailed examination of the work of James Thompson and Gregory Bateson. The second part (Chapters 5-7) brings the ethnogrpahic record together with the theory by offering three versions of presentation of DAE. Finally, in Chapter 8, the entire thesis is subjected to a brief interpretive analysis.

1.2 The thesis is an explication, expansion, and application of the work of James Thompson and Gregory Bateson.

These two men were eminent and influential social theorists and both have left important legacies of written work. Each (as indicated in the quotations at the head of this chapter) were sensitive to the difficulties inherent in social research and each, in his own way, attempted to counter any unsophisticated groping for simplistic answers. Yet, in their formulations, there are important differences.

The work of both men is examined and expanded to build two archetypal models which are exploited to present the ethnographic record. Thompson's work is codified as 'Model 1' and offers a broad statement of conventional organization theory. Bateson's work is codified as 'Model 2' and, while difficult to characterize, is generally an unconventional convention through which

the ethnographic record can be viewed. It should already be
apparent that there are many theoretical crosscurrents at play
within this thesis. These two models allow a presentation which
keeps these crosscurrents from getting out of hand. Through
intertwining the application of these models, literary closure
(though not theoretical closure) is possible.

In this section, these two theorists will be introduced along
with a brief description of the framework which is developed to
examine and present their work.

1.2.1 James Thompson[1].

James Thompson has had an immense and continuing impact on
organization theory (Pondy and Mitroff 1979, Koolhas 1982, Scott
1981). He was an American sociologist, trained in the early post
World War 2 years, who spent most of his academic career studying
instrumental organizations in the United States. His primary
interest was in developing integrated theories of organization
and administration. His theoretical lineage and written work is
explicitly structuralist. He drew much from previous work by
Weber, Parsons, Barnard, Chandler, Selznick, Simon, and Woodward.
He left two major contributions to organization theory. First,
he was the founder and first editor of the Administrative Science
Quarterly, a journal of international stature in the field.
Second, he wrote Organizations in Action.

This single volume was his main theoretical and literary
contribution. This book, written over a ten year period, was a
compilation of most of his previous work (Demerath 1974) and was
his major attempt to reconcile the views of natural systems

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1. For interesting biographical coverage of James
Thompson, see the memorial issue of Administrative Science
Quarterly, March 1974.

thinking and rational systems thinking. In _Organizations in Action_, Thompson attempted to propose a single, coherent theory of organization. The book has had such influence that Pondy and Mitroff (1979) suggest that it is the most systematic and successful example of the conventional paradigm of organization theory. In the few years since Pondy and Mitroff wrote that assessment, the paradigmatic convergence of the 1970s has given way to a paradigmatic controversy in the 1980s. Hence, it is arguable whether it is still possible for _the_ paradigm of organization theory to be represented by any book. However, Thompson's great influence and continuing appeal cannot be denied.

In the past there have been few applications of 'systems' theories such as Thompson's to interpretive research. However, this does not mean that such applications are impossible. Thompson's work will be shown to be applicable not only to the structural-functional paradigm to which it has been largely relegated; it is also a useful addition to the present interpretive presentation. In work nearly contemporary with _Organizations in Action_, Buckley (1967) built a strong case for embedding the general concepts of 'systems theory' in a larger interpretive framework. A similar possibility was hinted at by Bittner (1965) when he proposed that such 'systems' models be afforded the theoretical status of 'common sense' notions of organization. Given the importance of understanding common sense notions for interpretive research, the possible role of Thompson's theory is clear. All that is required is to shift the assumed status of the theory. In this thesis Thompson's work is not treated as a model of organizations, but as an articulate statement of one conventional way of addressing organization.

1.2.2 Gregory Bateson[1].

Gregory Bateson was a gifted and restless theorist. A son of one of England's great intellectual families, he was exposed early to classical European philosophy, the demanding scientific regimen of his father, and the general intellectual atmosphere of the collection of scholars who gathered at Cambridge during and immediately after World War 1. He took his first degree in natural sciences and then continued his graduate work in anthropology. His first major field study was among the Iatmul in New Guinea and resulted in his classic book, Naven (1936). Over the forty years following Naven, his work included additional fieldwork in Bali, studies of animal communication (including that of humans), the epistemology of science, treatment of alcoholics, and clinical psychology. After Naven, he wrote predominantly in journal articles. Thus, until the publication of Steps to an Ecology of Mind and Mind and Nature during the 1970s, his theoretical work was spread throughout the library and very difficult to appreciate in its entirety. As Kuper (1983) has argued, this is perhaps one reason why his influence in social theory has, until recent years, been diffuse.

Tracing Bateson's theoretical lineage and characterizing his work is very difficult. In developing his own thought, he does not derive simply or clearly from others' previous work. He was certainly affected by such people as Blake, William Bateson, Lamarck, Whitehead, Waddington, Radcliffe-Brown, Malinowski, Margaret Mead, F.C. Bartlett, Russell, McCulloch, von Foerster, Wiener, and Benedict. Yet, the influence these people had upon his work was indirect. His theories were always more an original

1. For interesting biographical discussions of Bateson see Lipset (1980) or Brockman (1978).

formulation rather than a direct and explicit extension of someone's previous work. Often, the link to previous work was a simple rejection of the other's notions (e.g., Malinowski). Always, the link to previous work was of secondary importance to Bateson. For example, though his social theories are strongly sympathetic to parallel developments in phenomenology, he made no attempt to link his thoughts to that body of work (Brockman 1978).

Fortunately, a specific genealogy is not necessary here. Rather, it suffices to state that Bateson's writing, though it spans the time frame from 1930 to 1980, shows a remarkable consistency. Bateson was, from the very beginning, strongly an interpretist in the sense that this label is defined above. He was always concerned with 'communication' and aggregates of 'communicating' entities; he always attempted to formulate theories that dealt with process rather than product; and he always dealt with ideas of circular causality. These characteristics hold in Bateson's work regardless of the specific phenomenon with which he was dealing and it is these ideas which make his work useful to the present study.

In organization theory, Bateson, unlike Thompson, is not a common name. Few theoretical and even fewer empirical studies in organization theory have been based directly on Bateson's concepts. Some early developments of his work in the literature of organization theory are shown by Weick (1974) and Argyris and Schon (1978). Also, Goffman (1974), though not widely referenced in mainstream organization theory, has greatly extended Batesonian communication models in social research. More recently, reference to Bateson's work has begun to appear in a wider range of explicitly organizational articles and books (Morgan

1981, Burgoyne and Hodgson 1983, Putnam and Pacanowsky 1983). His influence on organization theory is still, however, best described as 'slight'. This thesis will advance this growing trend by thoroughly examining Bateson's writings and offering an explicit empirical application.

It is impossible to introduce Bateson without, at least briefly, mentioning cybernetics. From the early 1940s, Bateson became increasingly interested in cybernetics as a mode of thought and a new lexicon began to characterize his writing. This poses a difficulty here because the word 'cybernetics' has come to evoke so many meanings as to be nearly useless. As Cherry (1980, p 58) explains, 'cybernetics' tends to be used in America to imply study of the nature of feedback, causal loops, and self-control. In Britain, the word is less often used and is usually replaced with the phrase 'control systems'. The French tend to use 'la cybernetique' in a manner similar to how Britons use 'information theory'. 'Cybernetics' has also developed a nuance which implies 'modeled after computers' (Boden 1978).

Within this lexical confusion, Van Gunsteren (1976 p 44) has suggested that much of what 'cyberneticians' claim as radically new theory, in fact derives from long lines of thought which cyberneticians have only 'reinvented'. He argues that many cyberneticians are dilettantes presenting long-established ideas in a new jargon. Waddington (1977 p 236), with eloquent understatement, suggests a similar thought when he writes that the American cyberneticians 'shouted "Eureka" at least as loud as the market could take.' Thus, it may appear that 'cybernetics' is a post World War 2 bandwagon led by a group of scholars who had not done sufficient homework. Bateson was surely on this band-

wagon; in fact, he helped found it. But the bandwagon image does not seem to fit with the earlier image of Bateson, the rigorous, Cambridge-educated scientist.

This conflict is resolved when one looks back to the early work in cybernetics for guidance rather than relying on the loose application of the word today. Bateson's relations to and reliance upon cybernetics is best described through Crane's (1972) concept of 'invisible college'. Specifically, it is argued that the Macy conferences (the initial series of international conferences on cybernetics from 1942 to 1953) were, for Bateson, an important 'invisible college'. That is, these conferences (of which Bateson was a founding member), far from converting him to a new way of thought, afforded him the opportunity to develop his previously established threads. At these conferences he met and shared ideas with other scholars of similar intent, unfettered by disciplinary boundaries. Philosophers, mathemeticians, engineers, biologists, and social scientists gathered to discuss their work and theories within the concept of 'cybernetics', which at that time implied a general interest in 'control and communication in (and among) animals and machines' (Wiener 1961). This group discussed, from a wide range of perspectives, concepts such as 'perception', 'response', 'epistemology', 'feedback', 'learning', 'adaptations', 'process', and 'abstraction' (von Foerster 1949-1953).

For Bateson, perhaps the most important aspect of the Macy Conferences was that the group of scientists discussed circular (or recursive) causality without fear of Aristotelian prohibition. Recursive causality was, with this group, a respectable concept (Maturana and Varela 1980). In fact, the subtitle of all but one of the conferences was 'Circular causal and feedback

mechanisms in biological and social systems' (Lipset 1980, p 180). Bateson had long been developing theories of recursive causality against the flow of mainstream thought of his day. For example, in _Naven_, 'recursive causality' is scattered throughout the text, even though there was a strong prohibition in English anthropology against such thoughts. _Naven_ was not well received (Kuper 1983, p 77).

Whether these early cyberneticians discovered anything 'new' or earned the right to 'shout eureka' is of little importance here. What is important is that Bateson discovered a forum where he could discuss his long-standing ideas. Through 'cybernetics', Bateson was afforded a language with which he could more easily express his thoughts, a rich collection of thinkers with whom he could share ideas without having to waste time arguing about (for Bateson) such basic concepts as circular causality, and a group of colleagues who understood and shared his fundamental episte-mological thrust if not his specific empirical interest. At the Macy conferences, there was an epistemological convergence which was much more important for Bateson than any disciplinary con-vergence.

Therefore, when the word 'cybernetics' is used in later chapters, this brief introduction must be kept in mind. Con-fusion could easily result because Bateson's 'cybernetics' does not reflect the most common usage of the word today. This is particularly true in organization theory where the word has accumulated a nuance which tends to make it a simple substitute for 'management control' (Hofstede 1978). With Bateson, 'cyber-netics' should evoke an entirely different meaning.

The necessary evocation is clarified through a distinction

developed by Morgan (1982). Morgan distinguishes between 'cyber-
netics as technique' (an effort in organizations to control
operations more effectively) and 'cybernetics as epistemology' (a
set of assumptions, values, and concepts about control and com-
munication). Morgan, quite correctly, points out that the ortho-
doxy of cybernetics in organization theory is 'as technique'.
That is, the most common concern for organizational cyberne-
ticians is to facilitate managerial control. Morgan further
argues that strict adherence to the epistemology of cybernetics
actually undermines the concept of 'cybernetics as technique'.
That is, the epistemology of cybernetics questions the concept of
'managerial control'. This is precisely the area in which this
thesis is involved. 'Cybernetics' for Bateson is indeed an
epistemology and, as will be shown in later chapters, does
strongly undermine the concept of management control.

1.2.3 Communication and Control: A framework for theoretic delineation.

The theories of James Thompson and Gregory Bateson are quite
different from each other. Therefore, a framework is necessary
to present each in a comparative manner. Such a framework is
presented in Chapters 2-4 and develops the general definitional
components of 'cybernetics' as introduced above: 'control' and
'communication'. Specifically, the assumptions which each
theorist makes concerning these two concepts form the axes of a
theoretical delineation.

Examining assumptions about 'control' implicit in an organi-
zation theory has been identified by Pfeffer (1982, p 13) as a
useful tool for building typologies of theory. He argues that
important theoretical distinctions can be understood based on
whether the theory assumes that 'control' is internal to human

actors or external. (This is the same distinction Burrell and Morgan (1979) label the 'voluntarist-determinist' axis.) Here, the general importance of assumptions about 'control' is accepted. However, the simple dualities 'internal-external' or 'voluntarist-determinist' conceived at the level of the individual do not serve for three reasons. First, as stated above, the thesis leans generally towards 'voluntarist' notions about the nature of human beings. Thus, both models are developed within this concept of the individual. Second, though Thompson's theories tend to appear more 'determinist' than Bateson's, neither man is unequivocally or completely committed to one or the other extreme. Thus the distinction between the two is not clear. Finally, both theorists address their models to some collective level rather than to the level of the individual. Therefore, the important 'control' distinctions between them must be delineated in light of a concept of 'control' at the level of the collective. These thoughts are expanded below.

Thompson focuses on models of the organization and his explicit notions of control are offered only at that level. His largely implicit model of man is a shifting and inconsistent theoretical support for his model of the organization. Bateson never deals explicitly with 'organizations' in the sense commonly used in organization theory. Neither however does he deal with isolated individuals. In his work, Bateson essentially reverses Thompson's direction and begins with a model of learning and perception which he holds constant as he examines collective phenomena. Through these formulations, he intentionally blurs the 'internal-external' border around 'individuals'. Given these fundamentals, the two models offer distinct notions about 'control'.

Thompson, in general, posits that 'control' at the level of the organization derives from a structural hierarchy whereby each individual member of the organization imposes control 'downwards' and has control imposed on him from 'above'. Control is passed from top to bottom. Every individual member of the hierarchy both controls his own behaviour and is part of the hierarchy which controls the behaviour of all members. At the very bottom of this hierarchy (where there are no more people 'below'), the individual imposes control only upon himself. At the very 'top' (where there are no more people 'above') various environmental factors impose control upon the individuals. Thus, all people in Thompson's scheme are both controlled and controllers. The conceptual mechanism which codifies these relationships is a Parsonian managerial hierarchy which transcends individual human beings. Patterned collective behaviour is the result of this transcendent control hierarchy of which all organizational members are also contributing parts. Thompson explicitly supports a voluntarist notion that all people if they are willing to accept the consequences of their actions are free and independent agents. Thus, requirements 'imposed' by the transcendent hierarchy are not strictly determinative.

Bateson also develops a model of man which combines both internal and external control assumptions at the level of individuals. He vehemently rejects, however, any notion of a transcendent control hierarchy. Rather, he argues through a combination of cybernetic epistemology, learning theory, and cognitive models, that patterned collective behaviour derives from human perception, communication patterns, and similarities in learned interpretive schemata. For Bateson, patterned collective behaviour is immanent from the various specific relationships of

people.

Thus, when faced with apparently patterned human behaviour, Thompsonian theory leads the analyst to a search for managerial control, power relationships, and social structure while Batesonian theory focuses on individual perceptions, relational patterns, and adaptive responses. These control assumptions and their implications are discussed fully in Chapter 2. The Thompsonian assumptions are labelled 'transcendent control' and the Batesonian assumptions are labelled 'immanent control'.

The other major delineation between Thompson and Bateson is presented through a discussion of their assumptions about 'communication'. This delineation is much more straightforward than the 'control' distinction. Simply, Thompson views human communication from an essentially realist position whereby words and signals are portrayed as directily passing their meaning to a receiver. In human communication, the receiver 'decodes' the meaning of specific words or 'reads' the meaning _in_ a situation. Bateson views human communication from a subjectivist philosophy and postulates that the receiver must, through previous and continuous learning, infer what various signals (words) mean. In human communication, the receiver interprets the meaning of specific words or 'reads' the meaning _into_ a certain situation. These two sets of assumptions, labelled 'passive receiver' and 'active receiver', are discussed in Chapter 3.

The assumptions about communication and control which characterize Thompsonian and Batesonian theory are used to structure a general presentation of their work. Thompson and Bateson are then applied explicitly in later chapters and used implicitly as archetypal of their particular genre. The variance in their theory is highlighted and exploited in Chapters 5-7.

1.2.4 Summary.

Weick (1979, p 35) has argued following Thorngate (1976) that no theory of social behaviour can be simultaneously general, accurate, and simple. Rather, these attributes come only in pairs. That is, if a theory is simple and accurate, it must be so by the sacrifice of generality. Weick likens this tradeoff to the face of a clock where the 12.00 position represents generality, the 4.00 position represents accuracy, and the 8.00 position represents simplicity. Thus, he argues, one can pursue what he calls six o'clock theory (simple and accurate, but not general), ten o'clock theory (general and simple, but not accurate) or two o'clock theory (accurate and general but not simple). Each theoretical position is limited and sacrifices must be made. He suggests that a fruitful basis for research to lighten the effect of such sacrifices is to combine theories from various 'positions on the clock face.' In other words, one can ameliorate the weakness of theory by triangulation. Weick continues to argue that Bateson is a good example of a two o'clock theoretician while much of conventional organization theory is at the ten o'clock position.

Thus, the canvas is prepared. Through close textual examination of Bateson and Thompson, two offsetting models are developed. Together, these models, both within the overall guidance of an interpretive paradigm, allow a theoretical triangulation as well as continuing self-criticism.

1.3 The thesis is a treatise on the application of interpretive methods and theory to organizational research.

The dissatisfaction with the conventions of positivism and the criticisms of 'conventional' organization theory are widespread enough that it is unnecessary to belabour the argument for

pursuing alternatives. The call for increased emphasis on qualitative methods is strong and the interpretive paradigm, as a set of metaphysical assumptions, is certainly reflected by many writers critical of the status quo (Gowler and Legge 1983, Silverman and Jones 1976, Putnam and Pacanowsky 1983).

As Harre (1979 p 84) has written, the debate concerning the metaphysics of groups of human beings is perhaps the 'longest running and deepest philosophical issue in the theory of social sciences.' As in all metaphysical debate, there is no unassailable method of 'proof' which can be offered to establish the correctness of one's position. However, it is argued that, lack of proof not withstanding, there is adequate justification in social theory to support the contention that an interpretive paradigm is a legitimate foundation (Burrell and Morgan 1979). Further, in the subset of social thought labelled organization theory, the literature presents not only adequate justification, but indeed, an active admonishment in this direction (Pondy and Mitroff 1979, Fineman and Mangham 1983, Van Maanen 1979). Thus, in this thesis, the fundamental metaphysical position of the interpretive paradigm is accepted as an appropriate set of assumptions to guide organizational research.

None the less, among organization theorists, there is very little agreement as to what consitutes 'good' interpretive research (Weick 1983). There are many risks and unforeseeable difficulties when one ventures into an area this sparsely developed. In this thesis risks will be actively pursued and difficulties will be forced to the surface. It will be shown that the obvious questions in non-positivistic research such as dealing with statistical notions of validity and reliability (i.e., answering positivist criticisms) are only part of the

difficulty. As vexing for the interpretive organizational researcher is answering his own paradigm-induced criticisms. These are questions about how any coherence at all can be brought to the discourse, how the discourse can be confined to a finite length, and why the discourse should be created at all. Questions such as these will be an important sidelight as this thesis progresses ostensibly through theory and data.

Since the publication of Burrell and Morgan's (1979) paradigmatic taxonomy, it has become common in organization theory for authors to locate their work precisely in terms of that scheme. Thus, a statement to further specify the paradigmatic position within the overall label 'interpretive' may seem appropriate at this point. Here this convention will not be followed because such taxonomic specificity is not possible. Once one is committed to an interpretive position, the clarity of Burrell and Morgan's framework is blurred. In short, strong concern for specific paradigmatic 'location' is a residual, positivist game; from an interpretive position, the taxonomy itself is questionable. The general label 'interpretive' is sufficient to begin and details of the metaphysical position will be demonstrated rather than defined.

Following this line of reasoning, it must be stated that this thesis is not offered as a direct contribution to the massive stable of theoretical criticisms of conventional organization theory. Rather, it is intended to join the much smaller literature of 'criticism' through alternative empirical application. It is part of and a contribution to a growing alternative way of dealing with organizational research. There are quite enough difficulties involved in highlighting and dealing with the problems within this thesis without stopping to point out the

weaknesses of others.

This thesis, then, is a collection of examples of organizational research which are subjected to self-criticism. Legge (1984) has suggested that any theoretic position in the social sciences will ultimately collapse into paradox. Seen in one light, this thought might seem to pose an insurmountable hurdle to any social researcher. However, here it is read somewhat differently. Acknowledging the inevitablity of paradox and weakness at the beginning brings freedom to the social researcher. He is not required to expend effort to hide the inevitable. If we were to wait until non-paradoxical theory is developed, we would never venture into the social world. If we were to deny that our position suffered from paradox and weakness, we would be attempting to fool ourselves. In this thesis, we shall indeed venture into the social world and as we do, we shall be reminded that paradox is perched on our shoulder.

CHAPTER 2

CONTROL

It is important to recognize that the controversy over the extent to which behaviour is externally controlled or individually chosen touches both empirical and theoretical nerves and also basic assumptions about the nature of man embedded in religion and philosophy. Thus the controversy is likely to be persistent and somewhat resistent to empirical results.

(Pfeffer 1982, p 120)

Shorn of the words 'management' and 'systems', control seems to be capable of covering almost anything.

(Machin 1983, p 30)

2.1 INTRODUCTION.

The word 'control' appears frequently in organization theory. As Machin (1983) indicates, the word is often used in conjunction with other words, frequently with 'management'. A naive reader of this literature might, at first, assume that the word refers to a stable, coherent concept. Pfeffer (1982) eloquently reminds us that this is not the case. 'Control' is an ambiguous and emotive word which only hints at a myriad of difficult and unsettled debates in social science. There is much danger in pressing such a word into 'scientific' use.

In a single chapter, we cannot attack the difficulties of the concept 'control' directly. Here, we are interested in the questions posed by the ethnographic record and how the theories of James Thompson and Gregory Bateson aid in the interpretation of that record. Therefore, this chapter consists of a detailed examination of the texts of these two authors, with particular attention to their conceptions of 'control'. Prior to this

textual examination, some introductory groundwork is necessary. First, a method of clarifying the very different epistemologies of Thompson and Bateson is developed. This is offered below in terms of a dichotomy between an epistemology based on a 'transcendence assumption of control' and one based on an 'immanence assumption'. The delineation of these two assumptions makes the difference between Thompson and Bateson extremely vivid. Second, some of the basic concepts and lexicon on which the work of each theorist is founded are very briefly introduced. After this two-fold introduction, the textual examination can be addressed in earnest.

It is conventional in such an introduction to offer a definition of terms, however this convention will not be followed here. 'Control' is a concept which can be approached from many different epistemological starting points to arrive at very different concepts all labelled by the same word. Rather than attempt a precise definition of an imprecise concept, here we seek to explore some of the limits of that imprecision. Thus initially, rather than a definition, a very general view of 'control' will be used as a conceptual focus. Here, 'control' is seen as a concept which stands in some 'causal' or 'explanatory' relationship with other concepts such as 'pattern', 'order', 'regularity', or 'purpose'. That is, if an observer notices people behaving in some patterned way and subsequently seeks to understand how and why that pattern develops and changes, he relies on notions of 'control' at some level. From this very broad focus, the texts of Thompson and Bateson will gradually offer two distinct, and somewhat more precise, 'definitions of control'.

In attempting to distinguish the 'control' theories of

Thompson and Bateson, one faces an immediate difficulty. Many typologies are offered in the literature to sort theories into dichotomous categories. However, as argued in Chapter 1, the two most common 'control' typologies in social science, 'internal-external' (Pfeffer 1982) and 'voluntarist-determinist' (Burrell and Morgan 1979), do not apply precisely to these theorists. Neither is clearly dedicated to one extreme or the other.[1] For Bateson, the distinction 'internal-external' makes no sense. In his epistemology, he blurs the border. For Thompson, the debate is likewise inapplicable. When Thompson addresses individuals, he is a strong 'voluntarist'. If, however, he is addressing groups of people in a specific culture, he appears more as a 'determinist'. That is, he is willing to generalize about human behaviour in specific societies.

The difficulty derives from the fact that neither Thompson nor Bateson develops theories about isolated individuals. Each makes what he considers reasonable assumptions about the biological and psychological human being and subsequently exploits those assumptions to develop theories of collectives. Both are social theorists and deal with groups of interacting people. Hence, it is necessary to attempt to distinguish their notions of 'control' at some collective level. The most common dichotomy used for this purpose, 'order-conflict' (Burrell and Morgan 1979), also fails to serve. While Thompson's theories are accurately categorized on the 'order' end of the continuum, for Bateson's theories, this type of categorization makes little sense. For him, the relation of 'order' to 'conflict' is not an 'either/or' question, but rather a matter of the observer's level of abstrac-

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1. These arguments are fully demonstrated through the textual analyses in later sections in this chapter.

tion. As will be shown below (most clearly in his theory of 'schismogenesis'), Bateson's work consistently addresses order _and_ conflict.

Therefore, to clarify the variance in the 'control' theories developed by these two authors, a different framework is offered which poses a dichotomy between an epistemology based on a 'transcendence' assumption and one based on an 'immanence' assumption. Simply, when Thompson seeks to understand 'order', 'pattern', 'purpose', or 'regularity' in human action, he seeks explanation in a 'higher authority' which imposes the pattern. In his theory, he constantly explains and justifies the emergence of an ever-increasing 'transcendent' authority. Bateson, on the other hand, specifically offers an 'immanence' assumption which implies that to understand 'order', 'pattern', 'purpose', or 'regularity', one must seek explanation in the relationships within the pattern. In his theories, he seeks to develop a hierarchy of abstractions which includes an ever-increasing range of relationships. Thus with Thompson, if we see pattern, we seek understanding by searching upwards; with Bateson, we seek understanding by searching inwards.

This basic epistemological dichotomy is explored fully through the specific theories of Thompson and Bateson. Thompson, it will be seen, applying a transcendence assumption, develops and extends a sophisticated 'managerial model of control', while Bateson, stressing 'immanence', develops his unique form of sophisticated cybernetic epistemology. The conceptual bases of these two positions must be very briefly introduced.

2.1.1 The Transcendence Assumption: A managerial model of control.

A transcendence assumption in social theory is very common in

Western thought and is perhaps most clearly expressed in the managerial literature. The idea that overall 'control' is a primary and identifying function of a 'management hierarchy' which transcends 'lower levels' of the organization is quite well established. Indeed, so closely intertwined are these concepts that it may be difficult to think of 'organization' without 'management' and 'control'. Fayol (1949) introduced 'control' as one of the universal tasks of the 'manager' as early as 1916. Further, he outlined a concept of control within this 'management context':

> In an undertaking, control consists in verifying whether everything occurs in conformity with the plan adopted, the instructions issued and principles established. (Fayol 1949, p 107)

This view of transcendent managerial control is conceptually founded upon assumptions and concepts such as the following[1]:

A. Organizations are coherent and purposeful collections of human beings.

B. Division of Labour - People within an organization fulfill specific and differentiable 'functions'.

C. Objectives - The organizational members fulfill their varied functions to contribute to the efficient accomplishment of overall goals of the organization.

D. Authority and Responsibility - To varying degrees, different individuals within the organization are assigned the tasks of setting the organizational goals and are subsequently held responsible for the accomplishment of these goals. Different people are, more or less, 'in charge' through a specifically designed hierarchy. Each successively 'higher' level is more encompassing and has greater organizational authority than the 'lower' levels.

E. Rationality - The ideal method of discharging this authority and responsibility is to analyze the present situation and future possibilities and take actions, or cause other people in the organization to take actions, which will maximize the organizational objectives. The difficulty of attaining this in practice is recognized in such concepts as

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1. This list is similar to the list of characteristics representative of structuralist organization theory presented by Bolman and Deal (1984, pp 31-32).

'bounded rationality' (March and Simon 1958) but the _ideal_ of rationality remains.

These conceptual foundations are the cornerstone of most organization theory (Burrell and Morgan 1979). From this base, a variety of attendant and supporting concepts are possible and necessary to fill in the theoretical picture. That is, within this view of the organization and the role of managerial control, there are a wide range of concepts and techniques which can be treated as 'tools' for managerial (transcendent) control. A partial list of such supporting concepts would include 'rules', 'roles', 'motivation', 'organizational structure', 'management-by-exception', 'reward systems', 'culture', or 'management information systems'. In fact, Flamholtz, _et al_. (1985, p 35) have explicitly attempted to integrate such diverse concepts and techniques into a coherent model to facilitate 'the task of harnessing human efforts for the attainment of organizational objectives.'

Clearly there are debates possible about this view of control both epistemologically and ideologically. (Is this view 'accurate'? If it is accurate, is it 'good'?) It is not necessary to enter into these debates here. Rather, all that is necessary to the present argument is that 'managerial control' is a pervasive viewpoint and is presented in many forms. The bulk of organization theory derives from the same fundamental concept: most simply, a view that in collective human activity some people, through 'management' processes, give direction to the collective either by right, by coercion, or by force of personality. Indeed, it may be very difficult for members of 'modern' society to imagine large, coordinated groups of people without 'someone in charge'.

The final point concerning this view which must be made here is the nuance intended by the word 'control' when a theorist is operating with this overall assumption. 'Control' is very nearly synonymous with terms such as 'authority', 'power', and 'influence'. Thus, when studying a theory such as Thompson's which is based on a transcendence assumption and extends the managerial control model, one must be sensitive to the possibility that when the author uses these synonyms, he may be addressing 'control'.

2.1.2 The Immanence Assumption: 'cybernetic' epistemology.

The literature explicitly labelled 'cybernetic' is vast, with applications in many diverse fields and, as shown in Chapter 1, there are many conflicting interpretations of the label. A survey of this literature would be as ambitious a task as a survey of all of the modifications of the managerial model. Fortunately, again this is not necessary. Here, it is sufficient to introduce only enough cybernetic concepts and vocabulary to make Bateson's epistemology intelligible. It will become clear that Bateson, firmly reflecting an immanence assumption, develops general cybernetic theory into a position which is in stark contrast to the 'managerial control model'. However, before the detail of his theories can be examined, a clear understanding of cybernetic epistemology is required. This shall be accomplished by a very brief description of some basic concepts. It is important to emphasize that this discussion is about cybernetic epistemology rather than technique (Morgan 1982). Here, no implication concerning examples of cybernetic systems is implied. Specifically, this discussion is not based on the 'managerialist' assumption that organizations are necessarily cybernetic systems.

Cybernetic epistemology relies strongly upon the concept of a hierarchy, or 'levels'. There are many different versions expressed in the field. Beer (1979) proposes five levels, Powers (1973) offers over nine, and Hofstede (1978), reflecting managerial orthodoxy, presents one level. Since most of Bateson's work revolves around three levels (though he leaves open the possibility for more), three are sufficient for present purposes.

Cybernetic epistemology begins with a postulate of a system that is capable of perception. This leads directly to the concept of 'environment' or, in Bateson's common usage, 'context'. It is posited that the 'environment' consists of some characteristics which are (1) perceivable by the system and (2) variable through some range. Thus, the perceiving system can be seen to 'respond' to changes in aspects of the environment. It is critical to realize that cybernetic epistemology is therefore, most basically, founded upon the supporting concepts 'perception', 'environment', and 'variation'. These three concepts, in various forms, are present thoughout all levels of any cybernetic model.

First level 'control' is the most simple form of the cybernetic model. At the first level, the system must be seen to respond in some way to the variations it perceives in the 'environment'. In this way it affects that perceptual environment and subsequently senses the 'new' current status. This process of change and perception is continuous. To state it as simply as possible, the system acts and perceives the results. This perception of results is called 'feedback' and leads to further constructs called 'reference states' (or 'goals') and 'comparison'. At this most simple level, perception of environmental status is constantly compared to some 'reference state'. If the feedback is timed correctly, and if the response serves to reduce

the difference between the perceived and the reference state, then the system is said to be an example of 'error-generated negative feedback' and the perceived variable is maintained within a range of error around the 'goal'.

Originally, work in cybernetics focused nearly entirely at first level control and negative feedback and, hence, on stability. Much of the early work was an attempt to exploit these concepts to design and build mechanical systems which exhibited homeostatic self-control. Maruyama (1963) explored the possibility of another form of feedback, so called 'positive feedback' whereby the difference between the perceived variable and the goal is constantly increased. Such a form of feedback, unchecked, would result in a 'runaway' situation of exponential growth or deterioration. In some sophisticated cybernetic systems, such 'runaway' conditions may be balanced in some way such that the 'explosive' situation is avoided. In this way, positive feedback is a constant source of systemic change and adaptation (Powers 1973). Hence, the concepts 'first level control' or 'self-correction' do not necessarily imply homeostasis. They could just as rightly be used to describe precisely the opposite result, exponential change.

There are many questions which this simple cybernetic model does not address. If this view is to inform any but the most trivial 'control' systems, some view of how the reference states become established is required. Thus, 'higher' order forms of control are postulated. Second level control is said to exist when the system is capable of changing the first level reference states from among some known ensemble. Similarly, third level control is seen as possible when the system is capable of changing the ensemble of reference states or the selection processes which

characterize the second level. As stated above, more 'levels' could be postulated, but the basic pattern which would be exhibited in any further extension is now established. Each abstract 'level' is an increasing step in systemic sophistication which consequently implies a broader, more comprehesive, systemic ability to perceive and respond to pattern and variance in the 'environment'. Each level of abstraction can be considered a 'meta' level.

Conceptually, therefore, 'cybernetic' epistmology can cope with complex, higher-level functions such as the setting of 'goals' and evaluation of the goal setting process. Further, it can cope with not only homeostatic control encompassed in first-level, negative feedback situations, but with a variety of non-homeostatic situations, such as change due to a shift in goals (second level control) or evaluation of goal setting processes and 'systemic consciousness' (Deutsch 1966). Finally, the possibility exists at each level for 'positive feedback' which could result in 'explosive' self-correction.

To appreciate the specific work of Bateson, four additional terms must be introduced.

A. Recursion - This most difficult concept can be stated in deceptively simple language. It is used to describe a causal relationship where causality is circular. This form of causality is in opposition to the more traditional, Aristotelian 'lineal' causality. In the more common, lineal view an event is seen as caused by some prior event or events which are necessary and sufficient to estabilsh the 'new' situation. The earlier events are the cause. In a recursive view, events are related in a loop such that it is nonsensical to attribute causal primacy to any event or component. In the common example of cybernetic 'control' in a home thermostat, a recursive view argues that the stable room temperature is 'caused' by the looped relationship of the temperature sensor, the boiler, and the room temperature itself. No component, in isolation, is in any way the 'cause' of the 'controlled' situation. If one seeks to understand this stability, then one must shift to a level of analysis which includes all the components and their relationships.

This most complex and vexing construct has only been briefly introduced here. It is a critical preview of the type of thought that is required to follow Bateson's work. 'Causal loops' pervade his theories and he consistently begins his analyses by 'rejecting the duality' of the original question (Bateson 1979).

B. <u>Communication</u> - The general concept of 'communication' is implicit in the recursive relationship described above. The three 'functional parts' of the temperature control system are not 'physically' connected. Rather, the critical connection is through 'communication' in the broadest sense of the term. Each component perceives some change in the others and responds. Here 'communication' and 'perception' are close synonyms and 'communication' is identified as a prime focus for analytic attention.

C. <u>Reactive</u> - Perhaps the most subtle aspect of the cybernetic model, is that it does not lead one into the classic, teleological fallacy. Although the 'future' state of the room appears to be 'controlled', it is not this 'purpose' which is drawing the room temperature forward. The future has not been invoked as a 'causal' agent of present responses. This critical aspect of cybernetic epistemology is due to the fact that the system is purely reactive. The thermostat does not respond to a future state, it responds to a perception of its present state. If one were to abstract a 'proactive' control system, such a system must be seen to react to present predictions of the future which will always be to some extent, problematic.

D. <u>Limitations</u> - A final aspect of this simple example may be obvious, but must be made explicit. Any postulated cybernetic process, even in the most sophisticated conceptualization, is limited. The system is limited by its perceptive ability and it is limited in its ability to respond. The temperature control system cannot respond to any aspect of the room except the temperature it perceives and it can only respond by increasing the temperature. Perhaps most importantly, it cannot respond to its own 'malfunctions'.

This very brief description of cybernetic epistemology serves only to give background and establish the lexicon required to understand Bateson's work. However, introductory as this sketch has been, the distinction possible between a 'cybernetic' model and a 'managerial' model should be clear. Cybernetically, 'higher' levels of control are not the 'function' of a transcendent hierarchy, but are immanent in a more inclusive, abstract 'system'. In cybernetic epistemology, the nuance intended by the word 'control' is shifted. The word is very nearly synon-

ymous with terms such as 'learning', 'cognition', and 'percep-
tion'. Thus when studying theories such as Bateson's which
reflect an immanence assumption and cybernetic epistemology, one
must be sensitive to the possibility that when the author uses
these synonyms, he may be addressing 'control'.

A final statement is required prior to a more detailed exam-
ination of the specific views of 'control' exhibited in the work
of Thompson and Bateson. Thusfar, two distinct underlying as-
sumptions about control have been outlined. It would now be
possible to work towards some form of theoretical synthesis of
these two views. This is not the objective here. The ultimate
aim of the analysis in this thesis is to exploit two _different_
views of the same data. Hence, far from working towards synthe-
sis, the effort here is to examine and sharpen the distinctions
(Gowler and Legge 1982). None the less, it must be recognized
that a great deal of work has been accomplished which does ex-
plicitly seek to assimilate cybernetics into 'management control'
based organization theory (Hage 1979, Beer 1979). This assimila-
tion is possible merely by accepting the assumption that designed
instrumental organizations are themselves, necessarily, sophisti-
cated 'cybernetic systems'. This is an assumption that Bateson
does not make. Indeed, it is precisely for this reason that the
work of Gregory Bateson is so important and why so much effort
has been devoted to develop the distinction between these two
assumptions about 'control'. In the remainder of this chapter,
this distinction is explored. The work of two sophisticated
representatives of each theoretical base is examined. Thompson
offers an extension of the managerial model of control, Bateson
an extension of cybernetic epistemology. Though they use words
that may seem to imply common concepts, their insights are

definitely different.

2.2 THOMPSON ON CONTROL[1].

In _Organizations in Action_, Thompson presents what he calls a
'conceptual inventory' for understanding organizations, particu-
larly how people use organizations for coping with uncertainty
(p i). The general contents of this inventory are, by now, well
known in organization theory literature. As in much of the
literature, Thompson's focus is clearly and explicitly on the
organizational level. Thus in his book he seeks to discuss and
explain 'organizations in the round' (p iii) and individual actors
'in the abstract' (p 121-122). In this thesis, however, we are
dealing with detailed, ethnographic data about a specific
organization. Hence, any theory must be translated into a form
that will deal directly with these specificities. In this sec-
tion, _Organizations in Action_ must be rearranged and translated
into a format which is applicable to detailed data. Thus, though
Thompson's concepts are well known, they will be presented in a
slightly different light.

Thompson has tried to keep his analysis strictly at the level
of the organization. Because of this, he has seen fit to adopt a
specific technique of discourse which he outlines in the preface:

> In order to focus attention on organizations as such, I have
> resorted in Part One to some verbal simplifications which are
> indefensible if taken literally. Specifically, in consider-
> ing organizations as 'actors', I employ terms usually as-
> sociated with human actors - terms referring to purpose or
> motivation. I _realize that organizations act only as a result
> of action by their members_, and I deal explicitly with such
> matters in Part Two. Meanwhile, the reader is asked to
> consider such phrasings as _shorthand conventions_ employed
> only temporarily to _facilitate communication_. (emphasis
> added)

The bulk of the book is written in this passive voice 'short-

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1. All page references in this section are to _Organizations in
Action unless otherwise noted.

hand' which tends to obscure the fact that Thompson is constantly addressing the question of why people do what they do. As the quotation states, he does not explicitly bring in human individuals until the final third of the book. The first part of the theory is a carefully established framework of the organizational logic to which he introduces a supporting model of the individual. For his purposes this technique may be sufficient even if it is confusing. Here, it is not acceptable.

This section is essentially a translation of <u>Organizations in Action</u> from the convenient, but confusing, shorthand to a less convenient mode of discourse which will make predicted human action explicit. It is important to point out that this is <u>not</u> a modification of Thompson's theory. It is simply his theory presented without the 'shorthand convention to facilitate communication'. His sentences of the form, 'Organizations do A.' are expansible within his theory to the form, 'For specifiable reasons and in specifiable ways, certain people within the organization influence the actions of others such that it is reasonable to say that organizational act A is accomplished.' Indeed, the former construction does appear more convenient. However, from a theoretic point of view, it obscures too much detail. Thus, while Thompson sought explicitly to make his analysis 'impersonal' (p 1), here the goal is to 'repersonalize' it.

This translation will be accomplished while remaining faithful to the concepts introduced by Thompson, such as society, culture, organization, individual, and environment. It is instructive at this point to state that while the text often obscures its human focus, it consistently highlights the distinctions among supporting theoretical concepts and categories. 'Organizations', for example, are clearly delineated from 'environ-

ments'.

> To see these propositions crystallized in action, we need an example of an organization (or complex suborganization) which is relatively free of <u>contaminating contingencies from the environment</u>. (p 61 - emphasis added)

Thus, we shall find that <u>Organizations in Action</u> offers, among other things, a set of clear, staightforward, conceptual categories. Here, these categories shall be rearranged to fit the present research needs.

Thompson, throughout his text, supports a transcendence assumption through the development of a managerial control model. Indeed, perhaps his most important contribution is a detailed examination of the process and problems of managerial control when managers themselves face uncertainties beyond their individual comprehension. Therefore, for Thompson, 'control' merges with with several synonyms in three basic categories:

> (1) 'Power' - Closely related to 'dependency'(p 10) and 'ability to withhold resources' (p 128).
>
> (2) 'Influence' - Closely related to 'responsibility'(p 10), 'administration' (p 10), 'coordination' (p 55), 'policing methods' (p 122), and 'ability to set decision premises' (p 133).
>
> (3) 'Compliance' - Closely related to 'discretion' (pp 117-131), 'autonomy' (p 78), and 'deviance' (p 122).

2.2.1 Society and Culture.

'Society' (Thompson sometimes uses the term 'culture'), while not explicitly examined in <u>Organizations in Action</u> is perhaps <u>the</u> critical aspect of the theory. Much of his supporting stereotypic assumptions (for example, 'norms of rationality' and 'individual aspirations') derive directly from the concept 'society'. It is clear that Thompson is aware that his work rests strongly on these social processes which are beyond the scope of his theory. At the end of the book, he makes the appeal:

We also need to investigate how norms of rationality emerge in modern societies, how they may vary, and the conditions under which they are applied or enforced. (p 161)

Though societal 'norm generating processes' are important bases of the theory, Thompson admittedly offers no conceptual mechanism to examine questions at this level. Rather, the human products of socio-cultural processes are assumed to be present in 'societies oriented to complex organizations'. Therefore, he focuses his attention not on cultural processes, but rather the 'products' of these assumed processes which characterize 'modern' society. Conceptually, then, 'society' serves three functions in Thompson's theory: it is a 'cultural teacher', it is a 'market-place', and it is a 'set of values'.

A. Society as the 'homogenizer of individuals'.

Thompson postulates 'society' as a type of a 'cultural teach-er'. Society is a processs, which is affected through family, schools, language, and institutions, whereby individuals are 'similarly programmed' (p 102). Specifically, Thompson argues that 'culture' results in some degree of homogenization of individual members along the following factors:

1. Ways of perceiving and categorizing reality (Lee 1950).
2. Beliefs about cause/effect relationships (Miller 1955).
3. Attitudes toward authority (Miller 1955).
4. Orientations toward time (Hall 1959).
5. Personal aspirations (McClelland 1961). (p 102 - his references are listed here)

Thompson emphasizes that he is not:

...maintaining that the homogenizing influence of culture and the sorting and channeling functions of the social system eliminate heterogeneity...The fact remains, however, that if the modern society is to be viable it must sort individuals into occupational categories; equip them with relevant aspirations, beliefs, and standards; and channel them to relevant sectors of 'the' labour market. (p 105)

Thus, the members of any society, though 'free' to do what they will, exhibit commonality of language, categorization, aspira-

tions, and subsequently, actions. In 'modern' society, in particular, this homogenization is directed towards life in complex organizations.

B. Society as a market-place.

A major characteristic of this 'society oriented toward complex organizations' is the presence of an indefinitely large number of 'consuming' organizations and individuals. In such a society, there exists a populace with needs and desires which each element seeks to fulfill through 'exchange' with other elements in the milieu. Exchange is presented throughout Thompson's work as the 'tie' which binds the various aspects of his theoretical picture together. Individuals 'exchange' with other individuals or organizations and organizations 'exchange' among themselves. Thus, society on the whole can be approximated by a 'market-place' view. This allows Thompson to postulate people in exchange situations and guided by a desire to fulfill their individual (though somewhat 'homogenized') aspirations. At the organizational level, 'society' then becomes a giant, complex market-place where a 'domain can be staked out', suitable amounts of 'inputs' can be obtained, and 'outputs' can be disposed. The details of these processes will be dealt with below. However, it is important to remember that whenever Thompson uses the concept 'exchange', he is referring back to his views about 'modern' society.

C. Society as the 'creater of norms of rationality' (pp 41,137,141).

'Norms of rationality' is perhaps the most confusing and least precisely developed concept in <u>Organizations in Action</u>. Most generally, Thompson holds that society provides concepts of

value, meaning, and legitimation to the individual members (p 4).
Somewhat tautologically then, in 'societies oriented towards
complex organizations' one can observe that a specific set of
values has emerged which Thompson has labelled 'norms of ration-
ality'. A distinguishing characteristic of modern society is
that, in general, the members collectively support and implement
these 'norms of rationality'.

The distinction that Thompson implies between 'norms of ra-
tionality' and 'rationality' is critical and subtle. 'Norms of
rationality' is the set of 'modern' social values, while 'ration-
ality' is a description of a specific type of decision making
process. Thompson explicitly rejects this 'rational' decision
making model as an accurate basis for social theory (p 5). Pre-
sent day situations are simply too complex for human actors to
truely behave 'rationally'. They must somehow 'bound' their
views. He does not doubt that individuals attempt to make deci-
sions to maximize the attainment of what they value. However, he
assumes that most of the time, human actors have only imperfect
knowledge. Further, he admits that his stereotypes of what
people value are culturally specific and limited to 'modern'
societies. He recognizes that values vary from society to society
and that as values differ, 'rationality', per se, differs (p 118).
He is careful not to offer any sweeping generalizations about
human values.

However, he does offer a generalization about value systems in
'modern' (that is, Western, industrialized) societies. It is
these values that he labels the 'norms of rationality' which he
argues are embedded in 'societies oriented toward complex organi-
zation'. In such societies, regardless of what a specific indi-
vidual values at a specific time or the actual processes through

which the individual makes decisions, 'society' will judge his actions and accomplishments (rightly or wrongly) based on the 'norms of rationality'. In this way, 'society' becomes a process of selection where actions that conform to the 'norms of rationality' are desired and those that do not are avoided. Thus, over time, nonconforming actions will not be supported in the marketplace and hence will gradually disappear. This is Thompson's way of stating that to be an accepted member of a society, the individual must behave in ways which other members of that society consider 'proper'. He merely specifies a stereotype of 'proper' behaviour in 'modern' societies.

Thompson does not list these norms, but implies that they approximate the traditional economic/managerial values of efficiency and effectiveness. To state it crudely, individual members of modern society are free to do as they please, but the majority will seek to satisfy their needs and desires through participation in complex organizations. Similarly, the members of a specific firm are theoretically 'free' to do what they will, but, in our society, the profit-making firm must ultimately make a profit or the social norms will not allow it to continue.

It is clear that Thompson thought the distinction between 'norms of rationality' and 'rationality' was critical. For although he was willing to develop a shorthand notation which obscures individuals, he was not willing to risk a notation that implied that organizations 'behave rationally'. Throughout the text, he repeats the somewhat laborious phrase, 'organizations subject to the norms of rationality'. Thus he continually reinforces the notion that society provides the 'rules of the game', that social processes provide some form of enforcement of those

rules, and that actors in the society know what the norms entail. All of his derived propositions concerning 'organizational action' flow directly from this view of society. Indeed his entire text is an attempt to reconcile the tension present in a society where individuals are inherently incapable of rational action because of situational complexity and yet find their actions judged according to norms which value rational behaviour.

2.2.2 The Individual.

The 'individual', though often obscured by the style of discourse, is a central confluence in <u>Organizations in Action</u>. The 'individual' is precisely where the tension between the 'norms of rationality' and the indeterminate nature of the situation meet. In complex situations, the individual cannot have perfect knowledge of cause and effect relationships or even desired outcomes, hence he cannot behave 'rationally'. Yet his society demands that he try. Thompson argues that the only way to reconcile these conflicting pressures is for the individual to find 'certainty'. Thus, throughout the theory, the individual is presented as a constant searcher for small, conceptually bounded packets of the environment where he can approximate rational behaviour and thus fulfill the culturally established values. In essence, Thompson suggests that individuals exhibit different specific aspirations, but all members of 'modern' society share a common 'meta' value, the desire to reduce uncertainty. This overriding value ascribed to human actors informs all of Thompson's stereotypes and therefore must be kept in mind as his other 'individual' level concepts are examined.

Thompson's bias in favor of organizational level theories means that his explicitly 'individual' level themes are stated

quite simply, even though they are extremely complex in substance.
For example:

> Our ability to understand or 'account for' human action is
> governed largely by our choice of accounting scheme or
> conceptual framework. For the level of understanding we seek
> here, we shall use a simple scheme patterned after
> formulations of Lewin (1935), Parsons (1937), and Parsons and
> Shils (1951), and recent research in cognition and
> perception. Our basic formulation is that human action
> emerges from the interaction of (1) the individual, who
> brings _aspirations, standards,_ and _knowledge or beliefs about
> causations;_ and (2) the situation which presents
> _opportunities and constraints._ (p 101 - emphasis in original)

As in his theoretical use of 'society', Thompson is not
interested in processes at the individual level, but rather the
outcomes of such processes which can reasonably be taken as
given. Here the 'homogenizing influence of culture' comes into
play. Thompson couples his views of the individual with his
views of society and derives an admittedly simplified generaliza-
tion about people in 'modern' society. He suggests that, in such
a society, individuals orient themselves (that is, their aspira-
tions, standards, and knowledge) around views of 'occupations,
careers, and career prototypes' (p 104). That is, within the
variability of individual capacity and desires, the person comes
to the organization as a competent member of society and, there-
fore, comes as a 'career-building individual' (p 106). Thompson
does not suggest that all individuals are necessarily qualified
and aspiring to fill some predetermined role in the organiza-
tion, nor is he stating that once 'programmed' the individual
ceases to change. Rather, he is stating two assumptions.
First, in any society, the behaviour of individuals is not total-
ly random. The members of a society act in ways characteristic
of their culture. Second, in 'modern society' behaviour is struc-
tured around the individual's aspirations, perceptions, and knowl-
edge oriented toward the idea of 'career' in complex organiza-

tions. Simply, Thompson offers a stereotype which assumes that the individual will aspire to be successful within the 'norms of rationality'. He is not saying that he can tell what individuals will necessarily do, but rather what most of them will probably do (p 137).

The individual thus prepared for life in complex organizations, faces the vast societal network of opportunities and constraints which he will attempt to engage through 'exchange'. That is, he will offer what he has to 'others' and attempt to get what he wants from them. Specifically, Thompson relates the individual to the organization (and ultimately to society) through an inducements/contributions theory developed through the work of Barnard (1938), Simon (1957), and March and Simon (1958). The human actor, to fulfill his aspirations, though he is essentially a 'multidimensional phenonenon' (p 101), voluntarily reduces his 'expression of heterogeneity' to consummate exchange relationships with the other elements of society (p 105).

It is a gross misrepresentation to imply that Thompson views these stereotypes as reasonable models for the study of all social phenomenon. His only purpose is to develop concepts which help explain instrumental organizations in complex society. His position, at least on a gross level, is consistent with Geertz's (1973) view, that man finds himself caught in webs of significance he has woven himself. However, while Geertz seeks to understand how the various 'webs of significance' are created and maintained, Thompson seeks to describe the effect such webs have in a specific society. For Thompson, the central webs of significance are the 'norms of rationality'. He then sets about to describe how these given norms are fulfilled through a transcendent hierarchy of managerial control.

2.2.3 The Organization.

The bulk of _Organizations in Action_ is directed to the organizational level. The socio-cultural and individual level concepts are all caveats, simplifications, and assumptions which support the organizational level views. Thompson sees his primary contribution as a synthesis of two divergent underlying views: the indeterminate, emergent nature of 'natural systems' thinking and the societally imposed requirement for 'rational action'. Thus he defines his most fundamental view of organinizations:

> ...we will conceive of complex organizations as open systems, hence _indeterminate and faced with uncertainty, but at the same time_ as subject to criteria of rationality and hence _needing determinateness and certainty_. (p 10 - emphasis added)

It is clear to Thompson that organizations must exist to accomplish something which the social 'environment' values. Specifically, he characterizes the organization as an input/output device which transforms resources supplied by elements of the environment into some product which is 'exchanged' back into the environment. The basic requirement for the organization's existence is that it comply with 'modern' society's 'norms of rationality' in terms of this transformation and exchange. To comply with these requirements, a set of input sources and markets must be discovered and transformation processes must be invoked. All of these requirements and possibilities are complex and variable. Therefore, they are sources of 'uncertainty'.

This leads to three basic concepts within the Thompson theory. The first is 'technology', which is defined as the process of transformation. Knowledge about technologies varies greatly. Of some transformation processes, a great deal is known, while others, either because they are new or because they are complex, are sources of great uncertainty. Thus, technologies can range

from 'nearly perfect', such as an automobile assembly line, to 'very imperfect', such as a mental hospital (p 15). Obviously, the 'less perfect' the technology, the more uncertainty the organization faces. Second, the concept of 'task environment' is 'used to denote parts of the environment which are "relevant or potentially relevant" to goal setting and goal attainment' (p 27). Simply, the organization need not be concerned with the total universe of opportunities and constraints, but only with a smaller, limited 'relevant' set. Once one knows, even in vague, general terms, 'what the organization does', then one can limit one's view to the 'task environment'. Again the more complex the task environment, the more it is a source of uncertainty and therefore a threat to complying with the 'norms of rationality'. Finally, Thompson combines 'technology' and 'task environment' in the concept 'domain' (p 26). Complex organizations do not engage in only one technology, but a complicated matrix of technologies. Likewise, the task environment, though vastly less complex than the total environment, can be extensive, changing, and full of contingencies. It is this complex combination of what an organization does, how it does it, and with whom, which defines its 'domain'.

Thompson's theory is very general and there are no mechanisms to predict what specific technologies or task environments an organization will decide upon. Rather, Thompson only argues that organizations will seek to reduce their total uncertainty and that concepts 'technology', 'task environment', and 'domain' give insight into how this comes about. Throughout, this is not a prediction of what the organization will specifically do, so much as an explanation of how some of the members will discover and decide what the organization must do.

Along this line, Thompson makes an important distinction

between economic and instrumental rationality. The concept of economic rationality is the traditional focus of organization literature and refers to attaining some desired outcome with the least amount of resource input. This would be specified by the actual technology and task environment which the organization faces and the uncertainty generated by each. Thompson emphatically attacks this focus as obscuring more critical questions of instrumental rationality. In the most simple form, he seeks to replace the question, 'Can we do it economically?' with two more fundamental questions: 'What do we want to do?' and 'Do we know how to do it at all?' Only after the second set of questions is answered is the first question sensible. Thompson argues that in modern societies, these second questions are problematic. The technologies and task environments are so complex and so rapidly changing that nobody knows enough to take them for granted.

2.2.4 The emergence of the managerial control hierarchy.

To this point, it appears that 'organizations' are social phenomenon only slightly affected by human intervention. Clearly this is not the case. Though on the surface, the framework appears to present a rather mystical picture of 'environments' and 'technologies' determining organizational action, as argued above it is more precisely an expanded and complex version of a management control model. In this regard, it is far from mystical. It is indeed a theory about people. Thompson is developing a framework, which, given his previous assumptions and these 'organizational' concepts, accounts for the emergence and 'power' of coalitions, small groups, and individuals. This development of coalitions is the basic 'control' concept of the theory.

Again, Thompson considers people to have organized their

relationship to complex organizations in terms of 'occupation, career, and career prototype'. Thus, the organization, as viewed from the individual member's point of view is simply a career opportunity. It is a place to fulfill culturally established aspirations. Here two fundamental assumptions are made. First, the individual must reduce uncertainty so that a course of 'bounded rationality' can be pursued. Second, 'exchange' relationships with other elements are a major source of uncertainty and therefore such relationships must be 'managed'. Thus the theory leads to the concepts 'discretion' and 'power'.

'Discretion' refers to a person's ability to withhold resources or permit their flow. In the general theory, all 'elements' (either people or organizations) are in exchange relationships with other 'elements'. Each element, searching for certainty, must have stable, predictable 'exchange' partners. Thus a person (or group) with 'discretion' can, by disrupting the flow of resources, threaten 'exchange partners' with uncertainty. Thompson, following Crozier (1964), defines this dependency/discretion exchange relationship as 'power' (p 125). People with 'discretion' over resources have 'power' to induce specific action of others who are dependent upon the 'controlled' resources. Given all the underlying assumptions, it is reasonable to further assume that members of this type of society would seek to gain such 'power' and thereby increase their own certainty.

Within this assumed value structure and the ongoing logic of the organization, Thompson argues that some people will have greater ability to manipulate their exchanges and so be selected to 'advance into highly discretionary positions'. For these people, a more precise stereotype can be assumed. Specifially people who have come to occupy 'highly discretionary positions'

have 'high aspirations, [are] not reluctant to exercise discretions and [have] developed political skills' (p 125). In other words, while all members of 'modern' society seek 'success' in terms of their personal view of 'career prototypes', some people will be capable of higher levels of achievement. Further, Thompson assumes that over the long-term, the 'norms of rationality' will insure that the people who occupy 'highly discretionary positions' will, in fact, conform to this more specific stereotype. That is, the nature of 'organizational requirements' implies that the people 'in charge' will be capable of exercising discretion and of sophisticated political (i.e., 'exchange') actions. If this were not so, then the organization could not satisfy the 'norms of rationality' and would either select new occupants for 'highly discretionary positions' or cease to exist.

Therefore, following Thompson, we expect to find a delimitable group within the organization who occupy 'highly discretionary positions' and can safely be assumed to be competent and aspiring operators in the organization. These people will be be attempting to reduce uncertainty for the organization (norms of rationality) and for themselves (career progession). Since they are skilled in the art of exchange and seeking to reduce uncertainty, Thompson believes it is correct to assume that they will establish a pattern of fairly stable exchange relationships with other 'powerful' people. That is, people in 'highly discretionary positions' will form 'coalitions'.

The general theoretical position thusfar is that the total organization is too complex for any single member to understand, yet organizations must be guided to actions that satisfy the 'norms of rationality'. 'Coalitions' are potentially small enough to be understood yet 'powerful' enough to guide the total

organization. Thompson argues that this is precisely what must occur in complex organizations. He calls this phenomenon the emergence of a 'dominant coalition'.

In what is perhaps the most interesting theoretical manipulation in the book, Thompson examines situations where the 'dominant coalition' grows in size and its power becomes 'dispersed'. That is, he addresses what must happen when the dominant coalition itself becomes a complex organization. In such a situation, the dominant coalition must develop a dominant coalition of its own. As Thompson explores these possibilities, he remains consistent with his fundamental transcendence assumption reflected in his firm belief that organizational rationality must be bounded such that some delimitable group 'understands' what is going on. He offers the following:

> When power is widely distributed [i.e., the dominant coalition grows into a complex organization] an inner circle emerges to conduct coalition business. (p 140)

> The organization with dispersed bases of power is immobilized unless there exists an effective inner circle. (p 141)

> In the organization with dispersed power, the central power figure is the individual who can manage the coalition. (p 142)

> Without the 'superb politician', metropolitan school systems, urban governments, universities and similar complex organizations would be immobilized. (p 143 - emphasis added)

Clearly, Thompson views the accomplishment of goals which satisfy the 'norms of rationality' as impossible without some form of transcendent, managerial 'control'.

Therefore, regardless of the dispersal of power, because of constant selection pressure from the norms of rationality, the organization will always be dominated by some smaller group of people who can exercise discretion over resources and who have bounded their view such that a form of rationality is possible.

Thompson specifies this 'dominance' pattern through Parson's (1960) hierarchy of control and responsibility. Through this framework he specifies fairly precisely how these various, delimitable groups of actors will interact within the organization. He posits three levels of 'control and responsibility': technical, managerial, and institutional (p 10). Each of these levels is qualitatively distinct and actually demands that the members at a given level exercise different forms of logic. Each level must transcend the lower levels.

The institutional level is peopled by the most dominant subgroup in the organzation. Early in the text, Thompson discusses this level in terms of 'meaning or legitimation' within the wider social system in which the organization exists. Thus, it appears that members at this level are concerned with 'values' (p 11). Once the entire conceptual mechanism is in place, it is clear that Thompson is addressing an 'inner circle' of the dominant coalition which 'sets the goals for the organization' (p 149). At the highest level in the organization, the inner circle (or the central power figure) will decide, in general terms, what task environment the organization faces and consequently limit the selection of relevant technologies. In other words, members operating at the institutional level are guided by a logic of domain analysis. Through their decisions, they specify the premises on which other members of the organization base their decisions. In this way, the members of the inner circle of the dominant coalition greatly reduce uncertainty for the rest of the members of the organization. Likewise, they remain 'powerful' because of the constant potential to increase other peoples' uncertainty.

The members of the managerial level use the premises as set by the inner circle and then, scanning the various possible tech-

nologies, establish the salient cause and effect relationship assumptions for the organization (p 149). Essentially, the management members respond to the institutional members thus: 'Since you have decided that the organization should operate in domain A, we shall face task environment B and must apply technology C.' Therefore, the management level members are guided by a _logic of choice_ within the value structure set by the institutional members. Again, once these choices are made, the total uncertainty which the organization faces is greatly reduced. Essentially, the hierarchy has taken the organization from an indefinite place in an unknown domain to a framework which is quite specifically oriented to a certain task environment with conceptual bounds around possible technologies.

Finally, Thompson arrives at the technical level members and what is perhaps the most widely known term from _Organizations in Action_, 'the technical core'. At this level, the members of the organization can operate in an environment of relative certainty. The values, technology, and task environment are all specified and the members of this level can concentrate on a _logic of_ 'doing'. In fact, the transcendent hierarchy of control has resulted in a greatly bounded subset of possibilities where much of the uncertainty has been removed. Through interdependent exchange, the members have created an artificial grotto in the complex society where rationality can be reasonably pursued. It is precisely this complex, multi-leveled managerial control operation that is coded in the first, very simple proposition in the book:

> Under norms of rationality, organizations seek to seal off
> their core technologies from environmental influences. (p 21)

Now this proposition can be seen as the tip of a vast conceptual framework for analyzing how people in organizations deal

with uncertainty. 'Control' concepts pervade. Here, the transcendent hierarchy derives its 'power' (ability to control other peoples' actions) through the discretionary manipulation (control) of resources to insure that the organization fulfils the selective criteria (control) of 'norms of rationality' in a total social system that makes sense to everyone because of their cultural training (control).

The translation of <u>Organizations in Action</u> into a useable form is not yet complete. Thusfar, we have identified specific actors and predicted their actions. We have identified <u>who</u> within the organization will perceive such factors as 'technology' and 'task environment', but we have not yet dealt with <u>how</u> they will perceive these various aspects. The only 'connecting' concept we have dealt with is 'exchange'. 'Exchange' and the more general connecting concept, 'communication', will be explored in the next chapter.

2.3 BATESON ON CONTROL[1].

Understanding Thompson on his own terms was a fairly straightforward process. It will not be so with Bateson. A great deal of effort is required to insure that superficial similarities in their work do not lead to assumptions of substantive likeness. The work of Gregory Bateson, like that of James Thompson, deals with people acting in their 'environment'. Both theorists seek to understand and explain why and how people do what they do. Both address aggregates of people and both use the words 'society', 'culture', 'organization', and 'individual'. One could easily read both with similar expectations, however such an endeavour

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1. Unless otherwise noted, in this section page references are given using the following abbreviations: N - <u>Naven</u>, S - <u>Steps to an Ecology of Mind</u>, M - <u>Mind and Nature</u>.

would leave the reader disappointed, confused, and misled.
Bateson's theories and, more importantly, his theoretic approach
are fundamentally different and to gloss over those differences is
to defeat the value of introducing his work to organizational
analysis. Prior to an examination of Bateson's theories, it is
necessary to be perfectly clear about these fundamental dif-
ferences.

Bateson is an anti-organization theorist (Burrell and Morgan
1979). In his only explicit treatment of Thompsonian 'instru-
mental organizational level analysis', Bateson writes:

> The social scene is nowadays characterized by the existence
> of a large number of self-maximizing entities which, in law,
> have something like the status of 'persons' - trusts, com-
> panies, political parties, unions, commercial and financial
> agencies, nations and the like. In biological fact, these
> entities are precisely not persons and are not even ag-
> gregates of whole persons. They are aggregates of parts of
> persons. When Mr. Smith enters the board room of his com-
> pany, he is expected to limit his thinking narrowly to the
> specific purposes of the company or to those of that part of
> the company which he 'represents'. Mercifully, it is not
> entirely possible for him to do this and company decisions
> are influenced by considerations which spring from wider and
> wiser parts of the mind. But ideally, Mr. Smith is expected
> to act as a pure, uncorrected consciousness - a dehumanized
> creature. (S421 - emphasis in original)

Note here that Mr. Smith is not dehumanized directly because of
what 'the organization' makes him do, but rather by the way the
concept 'organization' allows us to think of him. For Bateson,
'the instrumental organization' as a scientific framework de-
humanizes the director as much as the assembly line worker. He
finds it scientifically misleading and he works constantly
against such views. His most vivid empirical difficulties come
precisely from refusing to 'dehumanize' human beings for the sake
of his view of the aggregate. This consistent refusal (except
for some tentative, aborted thoughts in Naven) to simplify the
concept of the human being is one reason why his writing is so

complex. For Bateson 'the organization' is not considered a coherent 'system' but is considered more closely akin to a ritual performed by aggregates of people as they relate to one another in their milieu.

Bateson rejects the concept of the 'individual'. It is traditional to state that one can focus on three 'levels' in the social sphere, the 'individual', 'group', or 'organization'. This typology does not fit Bateson well. Though he rejects the notion of 'the organization' as a delimitable, singular, coherent system, he as strongly rejects the concept of 'individual' as a delimitable, singular coherent system. People must always be seen in relation to other people and other entities (S231, S433). Even if one could conceive of a human being as abstracted from any social and perceptual milieu, the 'conceiver' would still be in the picture. Thus, the theoretically minimum unit of abstraction at the 'individual' level is 'human being in relation to observer'. In fact, most of the time, the unit of analysis is 'human being related to other human beings all of which is related to the observer.' For this reason, Bateson defines his subject matter as 'the reactions of individuals to the reactions of other individuals' (N175).

Bateson specifically rejects the transcendence assumption implied in the managerial control model. This rejection appears in three primary guises. First, on a level of philosophic critique, he argues that much of this 'transcendent' view derives from the medieval Christian hierarchy where all 'order comes from above' and only from above. In an epistemology based on such beliefs, it is natural to find people aspiring for ever 'higher' positions in the hierarchy of transcendence. From this point of view, the social engineer (or the manager) is rather like God,

but not nearly as wise because man cannot transcend his own relationships (S403). Second, he rejects the common distinction between 'ends' and 'means' which is fundamental for all 'planning' processes: 'We have to find the value of a planned act implicit in and simultaneous with the act itself, not separable from it in the sense that the act would derive its value from reference to a future end or goal' (S134). Finally, he rejects a 'managerialist' viewpoint on 'pragmatic' grounds: 'Let me then conclude with a warning that we social scientists would do well to hold back our eagerness to control that world which we so imperfectly understand' (S239).

Thus, for the present research, we shall see that Bateson's value lies not in what he explicitly contributes to conventional organization theory and managerial effectiveness, but in those concepts he gives us for thinking about aggregates of human beings.

2.3.1 Epistemological Basics.

If we are to benefit from Bateson's work, we must firmly establish his epistemological bases. That is to say, we must be able to read Bateson on his own terms. It should be clear already that this will entail understanding an epistemology which is not common in the organizational literature. Some background is necessary prior to delving into the specific aspects of the theory. To facilitate this 'epistemological shift', a chain of four aspects of Bateson's 'cybernetic' thinking will be presented.

It may appear that this extensive introduction of Batesonian epistemology is misplaced in a chapter titled 'control'. However, 'control' is, most generally, an explanation of human

action, an area where Bateson offers much of value. Though unlike Thompson, he does not try to explain how managers 'control' modern organizations, he certainly does offer insight into ways of thinking about human action and 'environmental complexity', and how a scientist comes to use words such as 'control'. However, these insights are lost if his epistemology is misunderstood.

A. The creatura and the pleroma.

> There are two worlds that Jung (following the Gnostics) calls creatura (the living) and pleroma (the nonliving). I was asking: What is the difference between the physical world of pleroma, where forces and impacts provide sufficient basis of explanation, and the creatura, where nothing can be understood until differences and distinctions are invoked?
> In my life, I have put the descriptions of sticks and stones and billiard balls and galaxies in one box, the pleroma, and have left them alone. In the other box, I put living things: crabs, people, problems of beauty, and problems of difference. The contents of the second box are the subject of this book. (M16 - emphasis in original)

In fact, the contents of the 'second box' are the subject of all of Bateson's work. He deals not with a 'thingish' world of the pleroma, but always a world of ideas, a world of 'mind' where communication of 'difference' is the basis of all interaction:

> The difference between the Newtonian world and the world of communication is simply this: that the Newtonian world ascribes reality to objects and achieves its simplicity by excluding the context of the context - excluding indeed all metarelationships a fortiori excluding an infinite regress of such relations. In contrast, the theorist of communication insists upon examining metarelationships while achieving its simplicity by excluding all objects. (S221)

Thus, his work, whether dealing with Iatmul natives, schizophrenics, drunks, or dolphins always revolves around 'ideas' and how these ideas come to be 'known'. To understand Bateson, one must see that, for him, 'things' enter the realm of analysis (the world of 'communication and meaning') only by their names, qualities, or attributes (M73).

B. Misplaced concreteness.

This leads directly into Bateson's concern for falling prey to Whitehead's 'fallacy of misplaced concreteness' (N261, S57, Kline 1963, p 83). This 'fallacy' is similar to the problem of reification as it appears in much of the social science literature. However, since Bateson restricts his view to the 'creatura', his difficulty is compounded. While in most organizational literature, the worry is reification of the 'organization' (Silverman 1970, Thompson 1967), Bateson's worry is the reification of all things.

> First, there was the problem of reification. Clearly there are in the mind no objects or events - no pigs, no coconut palms and no mothers. The mind contains only transforms, percepts, images, etc., and rules for making these transforms, percepts, etc. (S242)

Bateson deals with 'ideas' and only 'ideas'. Because of this, he struggled throughout his career with a twofold problem. First, he did not find it easy to think of 'ideas' rather than 'things'. There was the temptation for him to view various categories (such as eidos, ethos, or economics) as concrete structural parts which 'interacted in a culture rather than as labels merely for points of view adopted either by the scientist or native' (N262). Second, once he felt that he had (at least partially) 'escaped from this morass' in his own thinking (N261), he found his discourse was limited to a 'thingish' language, English (M56), which restricted his ability to use such labels as labels. This is another reason why his work is difficult to read. He constantly questions his own categories. Each time he seems to approach a simple, coherent concept, he moves to a higher level of abstraction to point out that concept's inadequacies (M220).

C. The role of the observer.

Now we are prepared to understand another aspect of Batesonian theory. Since he never deals with 'things' but always with 'ideas of things', he can never separate his 'units of analysis' from an observer. His position is contrary to the more common notions of 'science', where the ideal observer is seen to play a passive, nondisruptive 'meta' role and where in a sense, the scientist is often seen to stand outside his research. For Bateson, this will obviously not do. No data are 'raw' but rather are records of mediated, edited, and transformed perceptions (S24). The 'observer' must be seen as an <u>active and responsible</u> aspect of the collection of ideas labelled 'research' (S80). Bateson does not reject the idea of 'validity' nor does he assume that any theory or research is as good as any other. In fact, he is a sharp critic of what he sees as 'muddle headedness' in theoretical writing (Brockman 1978). His position is that any hint that research is 'pure' or 'objective' or that the researcher can be hidden in the background contributes to that 'muddle headedness'.

D. Hierarchy.

Finally, we can satisfactorily introduce Bateson's notions of hierarchy without fear that they may be seen as similar to the hierarchy of authority and responsibility reflected in Thompson's theory. It is now clear that to use Bateson, we must force ourselves to think in terms of ideas connected through 'communication'. Therefore 'hierarchy' is a relational 'structure', created by the observer, among 'ideas' where each 'level' exhibits an increase in abstract complexity.

This form of 'hierarchy' derives from Russell's theory of

logical types (Whitehead and Russell 1910). This theory most simply says that no class is a member of itself. In less 'logical' terms, a category of events or objects is not itself an event or object. Similarly a 'category of categories' is not itself a category. Such a 'hierarchy' is a method of sorting abstractions which Bateson uses throughout his work as a technique to ensure that his concepts are 'abstract enough' to encompass the phenomenon he is seeking to understand. For example, if one wants to examine the the relationship of 'red' to 'green', one must have access to the more abstract concept 'colour'. Logical typing points out what may seem obvious and banal, that 'colour' is precisely not a colour, nor are 'red' or 'green' of the same level of abstraction as 'colour'. They are concepts of a different logical type and to treat them as though they were at the same abstract level is to step into confusion and paradox. Further, no amount of rigorous discourse at a lower level will suffice to 'explain' phenomena of higher abstraction. Restricted only to the concept 'redness', one can never examine 'colour' (S265).

For Bateson, the concept of 'hierarchy' is, therefore, a view of increasingly abstract and complex 'contexts' where each level makes relationships among concepts of the lower levels sensible. If one wants to understand or explain any phenomenon, one must always move to the more abstract level. In the data to be examined in this thesis, for example, if one were interested in 'explaining' management, one would need to work in a level of abstraction which included 'management' and 'non-management'. Similarly, it would be an error of logical typing to lump 'knowledge' and 'uncertainty' together. 'Uncertainty' is 'knowledge about knowledge' and thus must be dealt with at a level of

abstraction which deals with the relationship between 'knowing' and 'not knowing'.

Now that Bateson's general approach has been introduced, we can move into his more specific theories. These theories naturally, though sometimes complexly, flow from the epistemological base. Again, it must be emphasized that the thoughts examined here are not the traditionial organizational theory fare on 'control'. They are different. Below, three specific theories are discussed: mind, schismogenesis, and learning theory.

2.3.2 Mind.

This word appears frequently in Bateson's writing and, to him, it evokes a very specific meaning. This concept serves, for him, a role somewhat analogous to 'system' for many theorists. It is his most ambitious attempt to develop an epistemology suitable for the 'creatura' and not merely expropriated from 'physical world' thoughts. Most generally, 'mind' refers to a 'connectedness of ideas' (M11). This concept can be introduced by one of Eateson's favourite examples, a man felling a tree with an axe (S433-434).

In an epistemology informed by physicalism, a man chopping down a tree is a very simple phenomenon. The man, as an independent, purposive agent of 'force' operates upon two inanimate objects, an axe and a tree. He sets to work, 'controlling' the axe as an implement of his force, applied to the tree trunk. Eventually, the tree dutifully falls. The components of this system are delimited quite specifically. The man is bounded by his skin, the axe by its physical dimensions, and the tree by its bark. Causality is lineal; 'the man' fells 'the tree' with 'the axe'.

This is a coherent, sensible description that is perfectly consistent with an epistemology which Bateson rejects. Dealing with a world of ideas rather than force and recursive rather than lineal causality, Bateson must look at the 'communicational' relations among 'the larger system'. Thus, he addresses the system man-axe-tree which he calls 'mind'. In this mind, the man 'communicates' an idea to the tree through the mediator, the axe. The tree 'communicates' an idea to the man through the man's retina and through tactile sensations, again mediated by the axe. As an ensemble, the 'mind' man-axe-tree, eventually results in the 'idea' (communicated visually and audibly) 'fallen tree'.

This simple example serves to introduce the concept 'mind' though perhaps it is too simple. One could argue that, regardless of how one views the process, the tree will fall and Bateson is guilty of gross over-complication to satisfy some intellectual bent. However, Bateson is not really worried about chopping down trees, but in developing concepts to attack more difficult problems and this example merely illustrates the basics. 'Mind' is not to be understood by physical interaction, but by interaction based on 'news of difference'. In this example, the 'man' is constantly adjusting his swing based on his perception of the axe weight and acceleration, and the cumulative results of previous cuts. As the tree becomes 'different' to the man's eye, the axe swings become 'different'. The man merely mediates among these differences.

> But what is a difference? A difference is a very peculiar and obscure concept. It is certainly not a thing or event...A difference, then, is an abstract matter. In the hard sciences, effects are, in general, caused by rather concrete conditions or events - impacts, forces, and so forth...In the world of mind, nothing - that which is not - can be a cause. (S427 - emphasis in original)

In the hard sciences, we could specify that a certain number

of strokes with a certain force will cause <u>and</u> <u>always</u> <u>cause</u>, a
tree of certain dimensions and density to fall. But in the world
of mind, we must examine 'differences' and that is a different
matter. The perceptual ability of the man, the specific qualities
of the tree and axe, and an indefinite number of <u>random</u> variations
come into play before the idea 'tree fallen' becomes 'true'.

'Difference', then, is most fundamentally some perceivable
variation for some <u>specific</u> perceptual mechanism and that is the
crux of the problem; 'difference' depends on the perceiver. This
abstract perception can result from nearly anything in a 'physi-
cal' sense. As Bateson said above, 'that which is not' can be a
difference. Indeed 'sameness' can be a difference because it is
different than difference (S457). It depends upon the perceiver.

Thus, to study 'mind', we must look not to 'force' required to
accomplish some 'effect', but rather at the perceptual mechanisms
and communication pathways which come into play. If either or
both of those two aspects of 'mind' are problematic and variable,
then we must expect to see much variance among 'similar' situa-
tions.

Bateson, in an explicit application of 'cybernetic' episte-
mology, offers a list of 'systemic' characteristics which will,
within his view, demand that the phenomenon be viewed as a 'mind':

1. The system must be an aggregate of parts which operates on
'differences'. That is, the parts are capable of perception
in the broadest sense of that term.

2. These parts are related in complex causal loops in which
each part transmits (codes, transforms, recreates) the
'difference' it receives.

3. The parts exhibit collateral energy. That is, many events
are energized by the 'respondant part' rather than by impact
from the 'triggering part'.

4. The ensemble exhibits self-correction, either toward
'homeostasis' or 'runaway'. (S458, M102)

In summary, Bateson has offered three basic guidelines for analysis. First, there is a format for defining systems of analysis. Second, there is a strong methodological hint that 'perception' is more critical to a search for explanation than 'force'. Finally, there is a general reaffirmation that 'self-correction' can exhibit either 'homeostasis' or 'runaway'.

Clearly, we are now far outside the realm of traditional organization theory, perhaps most notably in relation to 'control' and its attendant concept 'power'. In the managerial model, 'control' comes from those who have 'power'. Bateson attacks this traditional view strenuously. He argues that even someone as 'powerful' as Goebbels, did not lineally 'control' German public opinion. It is just as reasonable, from a scientific viewpoint to say that German public opinion 'controlled' Goebbels who was forever condemned to respond to what his spies told him of the situation. If we wished to study the proposition 'German public opinion was controlled', we would need to frame our analysis in terms of a 'mind' which included Goebbels, the people who supported him administratively, the spy network, and the population. Further, even these delineations are not firm because none of the people, including Goebbels, was 'outside' the abstract concept 'German public opinion'. To attempt to study 'power' as though Goebbels had 'it' is, for Bateson, to fall prey to 'the myth of power',

> [which is] of course, a very powerful myth and probably most people in this world more or less believe in it. It is a myth which, if everybody believes in it, becomes to that extent, self-validating. But it is still epistemological lunacy and leads inevitably to various sorts of disaster. (S462-463)

Now, we have stepped to analysis of a 'mind' which is vastly more complex than man-axe-tree. We have moved to the analysis of a 'mind' whose component parts are human beings, all of whom are

capable of complex reactions and mediations in their interactions with each other. In fact, they are incapable of anything else. Such a 'mind' is the focus of schismogenesis.

2.3.3 Schismogenesis.

Schismogenesis has had only slight impact on the organizational literature (Morgan 1981), but the concept, developed fully, is a powerful view of human interaction and a robust example of Batesonian theory. Bateson's first application of this model was in analyzing the variance between male and female 'ethos' among a tribe of New Guinea natives, the Iatmul (N171-197). However, perhaps his most interesting application was in his wartime papers concerning cooperation among the Allies, methods of propaganda to emphasize distinction of the 'enemy', and recommendations for aiding the transition to peaceful relationships after the war (S62). The potential uses of schismogenesis are great and, in this section, we shall expend some effort to fully understand the theory.

Most basically, schismogenesis is a term which is meant to encompass a 'mind' consisting of two or more people and their behaviour towards one another (that is, people reacting to the reactions of other people). It is a typology of processes of interaction, rather than categories of behaviour (M207). Schismogenesis deals specifically with how processes of interaction lead to increasing behavioural differentiation among the actors. This distinction between a labelling of static behaviour 'types' and the discussion of interactive processes is critical and it is made clear by the difficulties Bateson met in developing the concept during the 1930's.

While in the field with the Iatmul and armed with concepts

such as 'eidos', 'ethos', and 'structure', Bateson faced a
confusing empirical situation. The Iatmul were, to a European
observer, a very bizarre society. There was no established chief-
tainship and no law; the men revelled in self-assertion and
boasting; homicide was honoured; the women admiringly looked on to
the histrionics; and there was a strange transvestite ceremony
called Naven. Yet, for all of this, perhaps the most troubling
characteristic of the Iatmul society was that it seemed to cohere.
Fairly large villages existed, houses were built with cooperative
labor, food was collectively grown and prepared.

Bateson had the vexing problem of searching for what he had
to assume was true. Somehow, from some viewpoint, the society
'made sense'. Yet clearly, his 'European' concepts could not
explain how. It was for this reason that he developed schis-
mogenesis. It is important to realize that it is only partly a
theory of how behaviour generates differentiations. The larger
and more difficult question was how these schisms were counter-
acted (N171-197).

When Bateson left New Guinea, he had developed the label
'complementary ethos' with which he meant to categorize the 'char-
acteristic' behaviour (ethos) of males and females in Iatmul
culture. In this case, the 'male ethos' (exhalting in self-
assertion and theatrics) 'fit' in a complementary way with the
'female ethos' (stressing spectatorship). The concept which this
label indicated was unsatisfactory because it ignored the question
of why the men and women continued their 'typical' behaviour and
how they knew their behaviour was 'proper'. That their behaviour
was 'complementary' depended upon their individual categorization
of actions. They somehow 'knew' how females should behave and how
males should respond.

Bateson attacked this problem by assuming that this 'knowledge' must be 'cultural' or learned in some way. His static concept 'complemetary ethos' needed somehow to view the behaviour as a learning process. The participants, through their interactive behaviour 'taught' each other and themselves that their reactions were proper. A male Iatmul performs in view of females, who respond with 'admiration' which confirms for the male that his performance is 'right', and so on. The male's behaviour 'makes sense' to him and the females' to them and the behavioural interchange is a self-validation of everyone's behaviour.

This is the root of the concept of complementary schismogenesis. Two or more people engage in behaviour which is essentially dissimilar, but 'appropriate' within their individual norms. Behaviour of one type is 'properly' responded to by the behaviour of the other type (S42). Examples of such complementary behaviour would be dominance-submission, exhibitionism-spectatorship, or dependence-succourance.

To this basic 'process' typology, Bateson added the concept of 'symmetrical' schismogenesis, which labels behaviour where the parties again engage in a self-correcting chain of behaviour. However, in symmetrical schismogenesis, the behaviour is similar, such as boasting leading to boasting or militancy leading to militancy. He now had concepts which could be applied to Iatmul male-female interchanges (complementary) and male-male interchanges (symmetrical) and both were seen as 'minds' in which the members simultaneously learn and teach differentiating behaviour. Symmetrical interchanges amplify similar behavioural responses and complementary interchanges amplify difference.

This left Bateson with a considerable theoretical problem (N187). As thusfar postulated, schismogenesis is an interaction

which only increases behavioural differentiation. Yet the continuation of the schism-generating behaviour depended upon some tie among the natives. They did not simply go off into the jungle in small isolated groups. At one level, their actions drew them apart and at another, their 'knowledge' of 'proper' behaviour drew them together. An unchecked schism-generating process would always result in the total breakdown of society and this was evidently not the case with the Iatmul. Bateson's theoretical requirement was not to explain how change comes about in social interactions, but exactly the opposite. How do any socially interactive processes persist in relative equilibrium?

His original (1936) answer to this problem was a lame statement that somehow, by lucky coincidence, complemetary and symmetrical schismogenesis balanced each other. In his 1958 epilogue, after his work in cybernetics at the Macy conferences, he offered another theoretical position.

> It was now neccessary to ask, is there any communicational pathway such that an increase in symmetrical schismogenesis will bring about an increase in the corrective complementary phenomena? Could the system be circular and self-corrective? (N289)

He then offered (in a fascinating and total inversion of his earlier interpretation) the Naven ceremony as just such a communication pathway. The thrust of his argument was that as the members of the society mutually teach and learn 'appropriate' response behaviour, they also mutually teach and learn 'appropriate limits' to those forms of behaviour and modes of communication which signal when those limits have been reached. It is important to stress that this 'explanation' consists of 'learning' of two logical types: behaviour and 'about' behaviour.

Since we are not directly concerned with Iatmul villages here, we must generalize the concept of schismogenesis. First,

it is a model of human interaction processes which lead the actors to behaviour which increases differentiation (N175). Second, it reverses the critical explanatory role of social science. Social differentiation is seen as more probable than social cohesion. Thus what must be explained is not disorder and conflict, but, if it occurs, social stability and cohesion. A schismogenic researcher who is dealing with a 'stable' social phenomenon must search for some explanation of how, within the divisive process of schismogenesis, the 'limiting' character- istics are built (N287). Third, schismogenesis, like all of Bateson's models, must not be made 'concrete'. It is a concept which may or may not aid the researcher in ordering his data. It is not a 'thing' which will always be found in social interac- tions (S84). Finally, it is a model which demands a very sophis- ticated and expanded view of human learning (N285, S63). It is to Bateson's learning theory that we now turn.

2.3.4 Learning Theory.

Of all of Bateson's theories, his learning theories are the most widely referenced in the organizational literature. Applica- tions either based directly on his work or explicitly sympathetic to it are fairly numerous. Argyris and Schon's (1978) work on 'managerial' learning within the given logic of the organization is possibly the most traditional. Weick's (1979) 'enactment' theories and Goffman's (1974) 'frame analsysis' are probably more akin to Bateson's epistemological leanings. All of these applica- tions however, serve to illustrate the potential which this theory offers a social analyst.

Enough has already been presented in this chapter so that Bateson's learning theory can be introduced simply. It is

explicitly a 'cybernetic control model' applied to phenomena of Bateson's 'creatura', most notably human beings. As in all of his work, Bateson devotes a great deal of effort to insure that his 'logical typing' is correct. Thus, he offers a description of the kinds of 'parts' which are capable of aggregating into the complex 'mind' of man-axe-tree, schismogenesis and, indeed, all social phenomena. His learning theory, or more accurately his theoretic approach to the concept 'learning', is a critical summation of his views.

The entire theory is a process of labelling various types of response or 'change' with reference to the individual's perception. (Here, his later, and simpler terminology shall be used: zero learning, learning 1, learning 2, learning 3.) His 'hierarchy' follows directly the 'cybernetic' epistemology introduced earlier in the chapter. Most generally, learning 1 is manifested in the individual's actions and perceptions, learning 2 is manifested in the individual's method of structuring learning 1 phenomenon, and learning 3 is manifested in the individual's critical self-evaluation of learning 2 processes (S25). Bateson's consistent position is that all human beings are capable of learning at least up to the third level. Perhaps even more importantly, human beings are creatures incapable of unsophisticated learning.

In human terms, zero learning is similar to 'habit' where response to some perceived aspect of the environment is 'automatic' or 'inarticulate'. Here, the individual is seen as merely capable of 'response'; no 'choice' is possible. Learning 1 reflects the ability of the individual to bring a wide number of responses to play, depending upon the specific 'context' of the situation. At learning 2, the indivdual must be able to distin-

guish among various learning 1 'contexts'. By learning to recognize new contexts at learning 2, the individual changes his response set at learning 1. In other words, the indiviual learns new ways to respond to different situations. Finally, learning 3 is seen as a difficult, often traumatic process of quite massive and fundamental change in the entire approach to the 'envivonment'. For human actors, this may be similar to theraputic breakthroughs, religious conversions or, perhaps, major 'epistemological shifts'.

Though Bateson introduces these multiple levels, his prime focus is nearly always on learning 1 and learning 2. That is, he focuses on the variablity of human actions and the processes of learning to create 'contexts' by which the individual classifies his actions. It is here, where people respond and 'structure' their responses, that Bateson is most interested.

As a 'cybernetic' model, this theory must be based on 'feedback' and 'comparison'. This leads directly to the concept 'error' which is central to Bateson's theories of learning. Indeed, 'error' can be used to present the details of the entire theory. He poses a basic question: Is there a difference between being 'in error' and 'being wrong'?

At the level of zero learning, again, no change in response is allowed; a given perception is responded to in only one way. Here, 'success' of the response would be equated with being 'right'. The ideal would be a system whose responses are always 'right'. Clearly, this is a very limited learning system. First, such an unchanging system must deal with a very stable 'environment'. Whatever limitations, either in perception or response, were 'designed' into the system will forever remain with it. Second and more critical, 'success' at this level of learning

demands some 'transcendent' authority or logic which is capable of anticipating the system's needs. In essence, zero learning requires a transcendent authority to define 'success'. For Bateson, it is clear that these limitations make 'zero learning' a misleading model of human thought.

He develops two examples to illustrate his critical position. First, zero learning informs a common view of 'education' where the teacher (as a delimitable agent) unilaterally 'gives knowledge' to the student. Some people would declare 'education' to have occurred when the 'student' attains all correct responses (as established by 'teacher'). In other words, 'education', viewed thus, is the attainment by the student of 'zero-learning' and a reinforcement of a 'transcendent hierarchy' world view. Another frequent application is in the 'rational decision making' model. In this model, if the decision maker could attain the ideal of 'perfect knowledge', then his response would be, in fact, not a choice but a given. The decision maker would be aware of all of the potential responses and all of the relevant factors. His ability to attain 'perfect knowledge' would have been 'designed in' at the start. Thus, the 'rational actor' model is also a model of zero learning. Bateson rejects such 'zero learning' applications both as descriptions of human beings and as ideals which should be pursued (S255).

Human beings are much more complex. In learning 1, we see them as capable of responding to a variety of 'contexts'. In learning 2, humans are able to evaluate their own learning 1 responses in light of their learning 2 'knowledge'. This two-tiered ability to adapt is the result of a difference between 'error' and 'being wrong'. A learning 1 response may have either

the expected effect or not (as judged by the individual). Commonly, we call this either 'being right' or 'being wrong'. However, regardless of the outcome, if the response allows the individual to gain information about responses, then from the perspective of learning 2, the outcome is always a success. This is the concept 'error', which is the process of acting at one level of learning while gaining knowledge at a more abstract level. It is central to Bateson's learning theory. Without 'error', the individual could not change and learning would always regress to zero learning. Fortunately, as sophisticated learning creatures, human beings are capable of 'error'.

Two implications of this theory must be emphasized. First, in learning 2, we are left with the somewhat disconcerting situation that 'right' and 'wrong' are no longer meaningful distinctions. From a learning 2 standpoint, both are equally desirable, because both are sources of information about learning 1 processes. Second, learning 2 is in a 'meta-relationship' with learning 1. It is essentially a framework that a person uses to establish expectations at learning 1. Thus, learning 2 is, at least partially, a self-validating schema (S263-272).

A specific example will help clarify what has been said thusfar. Garfinkel (1967, p 68) offers detailed reports of his students' learning. In one situation, the students bargained with shop assistants for a price lower than the one posted. The shop assistant either agreed to the sale or not. From a learning 1 viewpoint, if the student had hoped to accomplish the cheaper purchase and he failed, then he was 'wrong'. However, his specific behavioural action 'bargaining with shop assistant' is in a larger learning 2 category of behaviour we might call 'social exploration'. At this level of abstraction, any outcome to the

initial bargaining activity is successful exploration. The student could have 'learned' that a specific shop assistant either would or would not sell at the lower price. The result in either case would not challenge his category of behaviour 'social exploration'. That is, regardless of the number of 'failures' at learning 1, he may continue to pursue his exploratory actions at learning 2.

At the same time, for the student, the whole experiment was more than learning 2. The results of the 'social exploration' were critically discussed in a public forum, the classroom. Thus, it reflected, more precisely, 'exploration of social exploration'. This is Bateson's learning 3 which is an abstract challenge to learning 2 frameworks. As Garfinkel's text testifies and Bateson predicts, such highly abstract 'learning' is a traumatic, confusing experience. Perhaps, fortunately, it appears that most human beings are not frequently engaged in this level of learning. For the most part, human beings seem secure in their learning 2 'knowledge'.

In developing the fundamentals of Bateson's learning theory, we have already made several transitions. We began with cybernetic 'control' theory which we have seen Bateson merge with concepts of 'learning'. Much yet remains to be said of Bateson, but we cannot, because we are at another point of transition. We are now on the brink of 'communication', a concept which has been in the background throughout this section. Indeed all of Bateson's theories are communication theories. We shall have to wait to fully understand his epistemology until we meet 'communication' straight on.

2.4 SUMMARY IN ANTICIPATION.

We are now partially prepared to apply the thoughts of James Thompson and Gregory Bateson to the analysis of the ethnographic record. Both theories have been laid out in detail with respect to 'control'. In Thompson's theories, we find a sophisticated explanation of an emergent, transcendent hierarchy of managerial control; Bateson offers a view of 'self-control' immanent in the learning ability of 'minds'. Through Thompson, we see human beings searching for certainty on which to base their actions; through Bateson, we see human beings creating and evaluating their own certainty. Thompson connects 'consumers' through exchange of 'resources'; Bateson connects 'minds' through the exchange of 'ideas'. With both theories, we will continue our epistemolgoical exploration in the next chapter in light of these 'connecting' concepts.
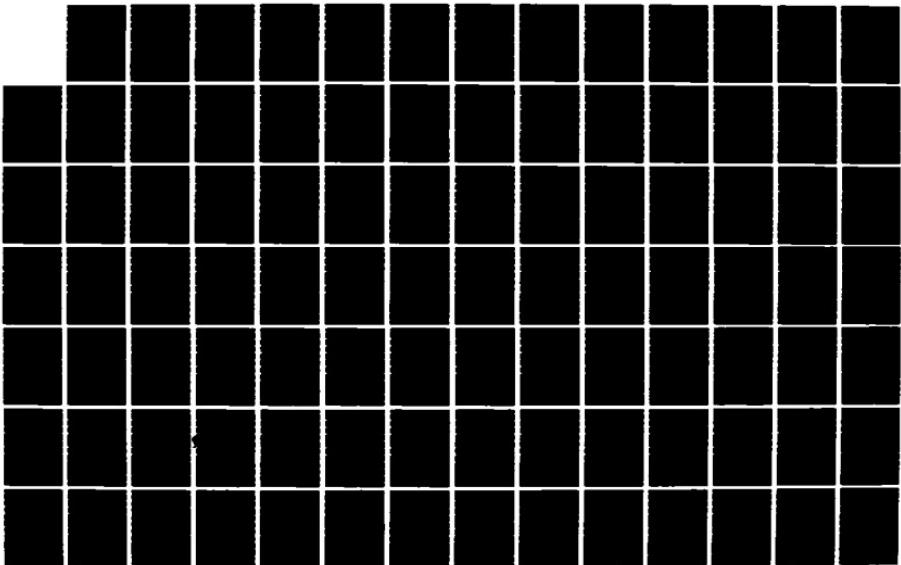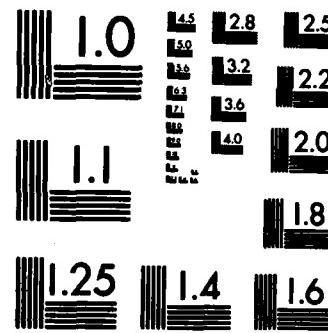
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CHAPTER 3

COMMUNICATION

The task of communicating involves moving the message across space and time. Imagine yourself standing on one side of a river and having to get a package to the other side. You have to choose some means for physically getting the package to the other side...When you communicate X, you must select a code or language that is most appropriate for transferring your message across time and space.

(Level and Galle 1980, pp 11-12)

Words do not 'mean things' in a one-to-one relation like a code...The utterance acts as no more than 'evidence' which is weighed, in light of the whole environment, and past experience of the hearer, though we must not regard such 'weighing of evidence' and 'making decisions' as necessarily involving...any logical deductions.

(Cherry 1980, pp 10-12)

3.1 INTRODUCTION.

The concept 'communication' is similar in many ways to 'control'. It too pervades organization theory and it may be impossible to consider 'organization' without 'communication' (Schall 1983). Indeed, perhaps one of the few items on which disparate organization theorists agree is that communication is important in the study of organizations (Barnard 1938, Silverman 1970). However, beyond agreement that communication is important, there is little common ground, for, like 'control', 'communication' is a simple, everyday word which is a gateway to some of the most vexing of philosophical debates. Communication can be approached from different epistemologies to derive very different conceptions which are all labelled with the same word.

In this chapter, two general epistemological thrusts will be introduced to distinguish the very different models of human communication which inform the work of James Thompson and Gregory

Bateson. Thompson follows, in the main, a realist position. In his epistemology, knowledge and meaning are seen to reside primarily in 'reality' which is directly perceivable by human beings. Gaining knowledge is an act of discovery. Human communication, following this pattern, is assumed to be a process which results from one person selecting words in a given language that 'correctly' convey his intended meaning. The theoretical focus in human communication is on the 'transmitting' individual and his chosen words. Bateson, in nominalist opposition, sees all perceptual activity as an active interpretive process. Gaining knowledge is an act of invention. The perceiving individual faces a complex signal milieu, of which 'words' spoken by another person are merely a part. The theoretical focus in human communication is on the 'receiving' individual and his interpretations.

As in the previous chapter, this discussion will not start with a precise definition. With 'communication', Thompson and Bateson use the same word but do not intend the same meaning. To offer a definition in this introductory section would merely increase the confusion and create an artifical illusion of precision. Therefore, following Shannon and Weaver (1963, p 3), the word 'communication' shall initially be used in 'a very broad sense to include all of the procedures by which one mind may affect another.' In this sense, the distinction between 'communication' and 'perception' is not clear. Further, 'knowledge', 'information', and 'belief' are all words which appear to point to similar phenomena. This terminological confusion is reflected in the work of both Thompson and Bateson. Each tends to use all of these words nearly interchangably. It is against this background that their theories will be examined. To facilitate this

examination, two models of human communication will be very briefly discussed.

3.1.1 The Passive Receiver Model of Human Communication: the conduit metaphor.

If one views man as a creature who perceives a reality 'out there', then 'communication' is rightly viewed as a process which follows this same perceptual pattern. 'Meaning' is part of the reality which is present to be perceived by the individual actor. Utterances, written words, and paralanguage contain meaning which the realist perceives. Simply, words mean what the dictionary says they mean and 'communication' entails a person selecting words which correctly contain his intended 'meaning'. This is the model of communication exemplified above by Level and Galle (1980) in their recent guidebook to 'effective' communication. A person wishing to 'transmit' a message must design the 'proper' packet of words and then send the packet to a 'receiving' individual. Communication is said to have been successful when the receiver can accurately duplicate the message intended by the transmitter. If the communication has not been successful in this sense, the 'fault' can be traced to an inappropriate 'design' by the transmitting individual or external factors such as noise or distortion.

Reddy (1979) has examined this model of communication in light of 'the conduit metaphor'. This metaphor implies an image of communication as one person giving physical tokens which carry 'meaning' to another. The transmitter inserts 'meaning' in one end of the conduit and the receiver 'receives'. Reddy argues that this view is extremely common in English speaking cultures and indeed is reinforced by the language itself. The English language reflects four 'conduit' assumptions which are character-

istic of the passive receiver model. The following list neatly summarizes this model of communication.

1. Language transfers thoughts or feeling from person to person.

2. Speakers and writers insert thoughts and feelings in words.

3. Words contain thoughts and feelings.

4. Listeners or readers extract the thoughts and feelings from the words. (Reddy 1979, Axely 1984)

This view of human communication may well be a necessary set for everyday human communication (Eagleton 1983). If one would constantly question the very language one used, then life would quickly come to a confusing regress of queries, 'What do you mean?' For most daily action, human beings can and do follow the passive receiver model into communication with their fellows and suffer no philosophic difficulty. Thus, it is hardly suprising that this realist view of communication is by far the most widely reflected in organization theory (Burrell and Morgan 1979, Axley 1984).

There is little research in organization theory directly concerned with communication (Porter and Roberts 1976). If one subscribes to the passive receiver model, there is little need for such research. The model removes much of the problematic nature and theoretical difficulties not only from everyday human communication, but from theories of organization as well. Below it will be argued that, at least in the work of James Thompson, this view of human communication is an important theoretical support for the overall organization theory. The 'conduit metaphor' allows an organizational theorist to take communication as a given instrument for coordinating human action and as a method by which human beings discover facts about their environment. It

greatly simplifies the task of understanding organizations.

3.1.2. The Active Receiver Model of Human Communication: the construction metaphor.

Although the passive receiver model is strongly represented in both everyday life and organization theory, it is not unchallenged. In fact, the challenge has a very good scholarly pedigree. The passive receiver model is questioned by philosophers (Derrida 1974 & 1978, Harre 1979), linquists (Chomsky 1976), literary theorists (Eagleton 1983), and a long list of social scientists (Schutz 1970, Berger and Luckmann 1967, Weick 1979, Cicourel 1974, Neisser 1976, Sperber 1974). Indeed, Shannon and Weaver (1963), in whose name many versions of the passive receiver model are offered, eloquently and strongly point to difficulties in its applicablity beyond the technical, engineering arena.

The challenge to the passive receiver model of human communication derives primarily from the difficulties of a simple realist epistemology. If one is led to reject the realist position, then one must reject the passive receiver model of human communication. Simply, a nominalist position leads to the conclusion that utterances, written words, paralanguage and indeed all 'channels' of human communication, are aspects of the individual's perceptual milieu. Just as the human being is active in 'constructing' his reality from available sensations, he is active in transforming audio vibrations or light patterns into 'words' to which he ascribes 'meaning'.

Thus, in distinction to the realist model, the emphasis in 'communication' shifts from the 'transmitter' to the 'receiver', and metaphorically from 'conduit' to 'construction'. Transmitters create signals, but receivers create meaning. The meaning

of a particular utterance varies depending upon the 'context' that the individual perceives as much as the words themselves. (See Cherry 1980, at the head of this chapter.) Theoretically, one could build plausible 'contexts' in which any word conveys any meaning (Sperber 1974). 'I am telling the truth' could conceivably mean 'I am lying' or 'I am telling the truth' or even something totally unrelated to truth or falsity.

The moment one steps to this epistemology, one opens a pandora's box of theoretical difficulties. The comfortable tidiness of the passive receiver model is shattered. Questions, which in the passive receiver model seem overly 'philosophical' or not 'practical', cannot be escaped. The appeal to the transcendent dictionary for 'meaning' fails and the conduit metaphor no longer illuminates the process of human communication. Though one may wish to close the box, one cannot ignore these newly created problems. Human communication is no longer an unproblematic aspect of organization theory having a supporting role, but a nasty set of questions which must be addressed.

There is certainly no shortage of literature which addresses these problems. Linguists, literary critics, anthropologists, and philosophers have long dealt with the relationships of signs, symbols, signals, word-tokens, referents, language, context, culture, cognition, and meaning. In fact, these difficulties are beginning to be addressed even in organization theory as interpretive research is gaining popularity (Putnam and Pacanowsky 1983, Van Maanen 1979, Fineman and Mangham 1983). A review of this literature is beyond the scope of this thesis. Here this position will be examined through the work of Bateson. However, the importance of the questions posed by this epistemology must be emphasized. Though the active receiver model of human com-

munication has had only slight impact on the mainstream of organization theory thusfar (Wetherall, _et al_. 1983), the questions are neither trivial nor easily ignored. It is clear that people in organizations (particularly managers) spend a great deal of effort speaking, listening, writing, reading, and 'communicating' (Minztberg 1973, Stewart 1967). Thus, in an attempt to understand organization, a search for multiple views of communication is not an unreasonable endeavour. Certainly, _the_ correct model of human communication will not be discovered. However, it is assumed that alternate views will be beneficial for the analysis which follows in later chapters. This is precisely what is offered below through the texts of Thompson and Bateson.

3.2 THOMPSON ON COMMUNICATION[1].

Thusfar, the theory developed by James Thompson in _Organizations in Action_ has been shown to explain the necessary emergence of a managerial control hierarchy within complex organizations. The organization itself is seen as a collection of human beings who, due to 'environmental factors' and the constant selection pressure of the norms of rationality, will engage in the reduction of uncertainty to comply with the values of modern society. Through organization, the people will transform resources into outputs valued in the market-place. Since this is impossible without specific guidance, a managerial hierarchy must emerge and be successful or the organization will cease to exist. 'Domains' in modern, complex societies cannot be satisfied by undirected human action. The theory specifies fairly succinctly, the subgroups which provide a direction.

It may appear that Thompson's theory has been detailed suf-

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1. As in the previous chapter, all page citations in this section refer to _Organizations in Action_ unless otherwise noted.

ficiently that preparation to interpret the data is complete. We are now armed with an explicit model of managerial control. However, in developing the explicit control model, Thompson has relied on extensive, mostly implicit views of 'communication'. If one seeks to be fully aware of the interpretive framework prior to approaching the data, these less obvious assumptions and their implications must be clarified. In this section, these theories and modifications of the concept 'communication' will be explored. It will become clear that, in Thompson's theory, 'communication' plays a strong, supporting role in the overall control model.

For Thompson, 'communication' is a near synonym for several other common concepts. This section is organized around three such synonyms. First, Thompson uses 'communication' in the military sense to imply transportation of resources from one location to another, as in 'lines of communication' (pp 53-55). Second, he briefly uses 'communication' to address the general process of people sharing knowledge through language (pp 13, 62). Finally, he uses 'communication' as a synonym for the transcendent control view itself. This last usage is necessary to fulfil two functions implied in the rest of the theory: the managerial control hierarchy must perceive domain requirements and be able to direct the rest of the organization in fulfilling these requirements. Thus, Thompson's theory offers communication as 'coordination' (p 53-56) and as 'gaining knowledge' about environments, technologies, or domains (pp 52, 135). Each of these 'definitions' and the implications they bring to the theory will be discussed in turn.

Prior to this discussion, a general introductory comment is required. Thompson, in all his versions of 'communication',

strongly follows a passive receiver model. Throughout, the transmitter, whether animate or not, is the active member in a communicative exchange. Two quotations clearly show this theoretical founding:

> [In emergency situations] authority to coordinate the use of resources is attributed to - forced upon - the individual or group which by happenstance, is at the crossroads of the two kinds of necessary information...(p 52 - emphasis added)

and

> The focus is on organizational processes related to choice of courses of action in an environment which does not fully disclose the alternatives available or the consequences of those alternatives. (p 9 - emphasis added)

Thompson is strongly a realist. 'Communication' is a fairly impersonal process which relies not on the interpretive capability of the receiving individual, but on the characteristics of the situation. 'Knowledge', whether embedded in natural language, the environment, or power relations, is present for any member of 'modern' society (and hence, all members of complex organizations) to perceive.

3.2.1 Communication as Transportation.

One definition of 'communication' conjures images of lines of transportation of people, goods, or supplies. Thus, in military parlance, it is traditional to consider supply trains, transport ships, and roads as 'lines of communication'. Thompson uses 'communication' in this sense:

> Typically, geographic space is described in terms of distance between points within it, but organizations usually measure this distance in terms of costs of transportation or costs of communication. (p 68 - emphasis in original)

'Communication' is thus portrayed as a passing of resources along formal organizational lines.

This usage does not form a crucial aspect of Thompsonian theory and, thus, its critical examination may appear unimpor-

tant. However, the equation of communication and transportation, however brief, implies some critical assumptions which must be understood. Further, this usage does not merely reflect such assumptions. To the extent that the substitution of 'transportation' for 'communication' seems reasonable, it reinforces them.

First, 'communication' is seen to generate 'costs'. This implies that communication is a resource and should, therefore, reasonably come under the logic of resource allocation (the norms of rationality). That is, one must seek to fulfill the criteria of efficiency and effectiveness in communication just as one does in attaining raw materials, applying technologies, or selling products. The process itself is scarce and hence must be selectively applied. Second, and very closely related to the first, this presentation of communication implies that the process can be selectively and unilaterally stopped or started. If the transmitter stops transmitting, the communication has stopped. This assumption is critical, for, in theory, it allows a 'transmitter' the ability to 'design' lines of communication which comply with the 'scarce resource' allocation logic. If 'communication' were not thus controllable, then the 'scarce resource' would appear with capricious disregard for purposive organizational needs. Finally, this view of communication implies that one agent can 'design' communication between two other agents. If A wants B and C to communicate, it is possible for him to make it happen.

Thus, this seemingly innocent line in _Organizations in Action_ is laden with critical assumptions. The equation of communication with transportation is perhaps the strongest form of reinforcement for the conduit metaphor and very clearly brings 'communication' under 'managerial control'.

3.2.2 Communication as Sharing Knowledge Among Human Beings.

The most common definition of 'communication' implies a process by which human actors share knowledge. When people speak, listen, write, or read, the object of the interchange is presumed to be a desire for the participants to 'know' similar things. This usage ties 'communication' explicitly to language. Thompson's treatment of this aspect of communication is critical perhaps mostly because of the rapidity with which he dismisses it as a theoretical difficulty. From Thompson's realist basis, this sharing process is straightforward. He specifically addresses this aspect of communication only twice in the entire text.

> These constraints are real indeed, but the fact that potential members have in common standardized ways of viewing the world and communicating means that the organization is spared the _impossible_ _task_ of dealing with _random_ discrepancies between what it needs and what exists...Complex organizations in such societies _can_ _and_ _do_ _take_ _for_ _granted_ _that_ _virtually_ _all_ _members_ _will_ _share_ _a_ _common_ _language_, common conceptions of time, a common arithmetic system, and a host of similar patterns. (p 13 - emphasis added)

Here it is clear that, for Thompson, language is given. Relying on a simple, passive receiver model, he posits as appropriate the assumption that human communication, as sharing of knowledge through natural language, can be taken for granted within a specific culture. The organization and the organizational analyst can safely assume that language, meaning, and the processes of sharing knowledge are not areas that must be deeply questioned. The theoretical attention is drawn away from any problematics that might exist in human communication and towards problematics that exist in the situation.

As with all of his stereotypes, Thompson does not argue that this assumption is adequate for the study of all social phenomena. However, in _Organizations_ _in_ _Action_, his purpose is explicitly to examine complex organizations in 'modern' society.

It is for this purpose alone that he suggests such an assumption is appropriate.

However, given this assumption, it is reasonable for Thompson to again shift to communication as 'sharing of resources'. If language and perceptual schemata can be taken as given, then there is not a great deal left to question in the area of human communication. Therefore, his primary theory of human interchange shifts from linguistics to 'exchange'. In this view, people are seen to interact through a desire for and an ability to supply goods and services. This 'exchange' basis of human communication is not uncommon, particularly in much of the organizational literature. Indeed, Eagleton (1983, p 19) goes so far as to state that this view of human communication is a direct outcome of 19th century capitalism. Regardless of the historical antecedents, as Thompson's most explicit and extensive view of communication, this concept is critical. 'Exchange' is realist, 'market-oriented', and most importantly, it defines a motivational assumption about human actors. If one asks why a person engages in any communication, the answer must be framed in terms of individual, instrumental return. 'Communication' is now viewed as an instrument for attainment.

3.2.3 Communication as Managerial Control.

Since Thompson need not engage in a philosophical discussion of language, meaning, and knowledge, he can address the most 'practical' aspects of communication, primarily in relation to managerial control. He dwells extensively on two 'managerially' required 'functions' of communication: coordination of the organizational subunits and processes of perception of external organizational needs. In the first, he discusses how the managerial

control hierarchy, through the administrative process, 'balances' the various levels of action, need, and uncertainty. This leads to a theory of how the hierarchy manipulates 'exchange' relationships and interdepedencies in order to develop a pattern of human action which will fulfil the domain requirements. Here 'communication' is a synonym for 'coordination'. For the second function of communication, he addresses how the managerial hierarchy comes to know domain requirements. Here, 'communication' is a synonym for 'environmental perception'. Each of these aspects is discussed below.

For Thompson, the critical factors of internal coordination derive from various types of resource interdependency. To clarify the theoretical relationships, he offers a simple typology of three interdependencies and subsequently derives the forms of coordination each type requires (p 54). In this discussion, Thompson uses the term 'unit' a great deal, though he never explicitly defines it. However, 'unit' appears to refer to any 'coherent' subset of the total organization. It can be a formally designed organizational division, an emergent coalition, or even a single individual. All are seen as entities engaged in self-interested 'exchange'. To this extent, interdependence and coordination of all such 'units' should be similar.

The first type of resource dependency is 'pooled interdependence'. This is the simplest form of organizational interdependence, because it entails no actual resource transfers. Each unit can achieve its own objectives with little or no resource support from the others. The units are interdependent only to the extent that all rely on the total organization's continued success for their individual success. The total organization relies on each of the units for continuance. Hence, the

various units are mutually interested in the continued success of the others. The second is called 'sequential interdependence'. In this case, units in the organization transform resources and pass them on sequentially to other units. The output of one unit is the input for another. Finally, the most complex type of interdependence is 'reciprocal'. Here the units 'trade' resources. Both inputs and outputs flow in both directions.

The administrative process (that is, the coordinating efforts of the managerial hierarchy) must somehow balance all of these interdependencies or the overall domain requirements will not be fulfilled. Each unit is essentially 'self-motivated' to attain stable, self-beneficial exchange relationships. The administrative process is a manipulation of the exchange relationships until the resultant pattern benefits the total organization. This, Thompson suggests, is accomplished by various means, depending on the type of interdependencies. Specifically, he modifies and applies the theory of March and Simon (1958) to the three types of interdependencies.

> First, with pooled interdependence, coordination by standardization is appropriate; with sequential interdependence, coordination by plan is appropriate; and with reciprocal interdependence, coordination by mutual adjustment is appropriate. Second, these types of coordination, in the order introduced above, place increasingly heavy burdens on communication and decision. Standardization requires less frequent decisions and a smaller volume of communication during a specific period of operations than does planning, and planning calls for less decision and communication activity than does mutual adjustment. There are very real costs involved in coordination. (p 56 - emphasis added)

Communication, as a resource, is directly related to cost - more communication means more cost. Therefore, Thompson argues that, under norms of rationality, the organization will deal first with any requirement for coordination by mutual adjustment. Then the organization will deal with any requirements for coordi-

nation by planning and finally with the requirements for standardization. This is a simple cost minimization prediction. To minimize the total cost generated by communication, the organization will deal with the most costly forms first.[1] Hence Thompson suggests that organizations will place the most complex interdependencies 'tangent' to one another (p 57). This term is not defined, but by implication, 'tangent' means spatially near. Such positioning will minimize the costly 'lines of communication'. Thus, in complex organizations, one would expect to be able to sort divisions along lines of identifiable resource interdependencies. If this general form of divisionalization is not present, then norms of rationality will not be fulfilled in the long-term.

It may appear that we are far removed from any reasonable concept of 'communication'. However, it must be emphasized again that 'communication' in the Thompsonian context revolves precisely around resource transfer and exchange. 'Communication' as 'sharing knowledge' among human actors, has already been dismissed through the realist foundation and a passive receiver model. Language is unproblematic. In coordination of pooled interdependencies, the members know the rules; in coordination of sequential interdependence, the members know the plan; and in coordination by mutual adjustment, the members know the exchange requirements. Perhaps most importantly, the members of the transcendent hierarchy know the overall requirements.

The organization has thusfar been portrayed as a hierarchy where each member can look 'up' to other people for uncertainty

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1. Thompson does not discuss the potential trade offs between costs of communication and costs of poor coordination. That is, he does not relate minimization of cost of communication to total cost minimization for the organization. In this instance, the resource 'communication' is treated in isolation.

reduction and direction. At the 'top', the transcendence shifts
from people to the externalities, 'task environment' and 'tech-
nology'. That is, most organizational members are directed by
the managerial hierarchy which is guided by either a dominant
coalition or a dominant individual. But, what guides the members
of the dominant coalition? These people must look to the 'envi-
ronment' which becomes an active communication partner for them.
This transition is possible because of Thompson's passive
receiver model of human communication. Within this framework, it
is sensible for him to write,

> We can expect the task environment to signal, more or less
> rapidly, the emergence of new dependencies and thus the basis
> of new power positions in the dominant coalition. (p 130)

The technology, task environment, domain, and norms of ration-
ality constitute a 'reality' which signals to the members of the
dominant coalition. By following these signals from the outside
world, the dominant coalition plan for, organize, and control the
organization.

This leads to one of the most important contributions of
Thompson's work. He is concerned throughout with the uncertainty
which comes from complexity in the environment. There are, in
modern society and complex organizational domains, so many per-
ceptual/communicative possibilities that any single individual's
knowledge is problematic. Human beings are cognitively limited
and hence they cannot perceive the totality of a complex environ-
ment. This is true even for members of the dominant coalition.
Though inter-individual communication is considered unproblem-
atic, the extra-organizational communication of environmental
perception is very problematic. This is the curse of uncertainty
which members of 'modern' society must bear.

Thompson follows the common thread of 'environmental' organi-

zation theorists (Dill 1958, Woodward 1965) in sorting environments (specifically task environments and technologies) according to degrees of stability and homogeneity. The theoretical position is clear: the more shifting and heterogeneous the environment, the more uncertainty will be present in the situation. Increasing environmental complexity means increased imperfection of knowledge. Thompson deals directly with this problematic nature of knowledge of the environment.

At this point, Thompson shifts slightly from a simple realist position. Since 'reality' is complex, no actor's knowledge is perfect and, in the end, the imperfections must be recognized. All knowledge, Thompson agrees, is somewhat problematic. However, one need not get bogged down in the epistemological difficulties that this statement may imply for organization theory. Because of the rest of Thompson's theory, we need not be concerned with each member's problematic knowledge. We need only locate the dominant coalition. What those people 'know' and how they come to know is of importance to 'the organization'. Knowledge and beliefs by non-dominant members, while possibly interesting on an individual level, by definition are not organizationally important.

Therefore, to understand organizations, one must find the dominant coalition and discover the knowledge those people believe. It must be assumed that the members of the dominant coalition have environmental awareness at least sufficient enough to give purposive guidance to the rest of the members. If they do not, the organization will eventually fail. Therefore, we must seek to understand the knowledge, beliefs, and perceptions of the dominant coalitiion. These people must 'read' the environment, establish reasonable domains, and balance internal

interdependencies to ensure the continued success of the organi-
zation. In short, members of the managerial hierarchy must make
decisions. Thus, we turn to the decision making process.

Thompson argues that people make decisions in various ways
depending upon their knowledge of the situation. He offers a
specification of two critical variables in decision making situa-
tions:

> Decision issues always involve two major dimensions: (1)
> beliefs about cause/effect relationships and (2) preferences
> regarding possible outcomes (Thompson and Tuden, 1959). This
> does not mean that both dimensions are consciously considered
> in every discretionary situation, but simply that both are
> operating at some level. These are the basic variables of
> decision. (p 134 - emphasis and reference in original.)

From this basic set, Thompson derives a matrix to serve in
analysis of decision making situations faced by the managerial
hierarchy. Specifically, he offers the scheme shown in figure
3-1.

Figure 3-1

Thompson's Typology of Decision Making Strategies

Beliefs about cause/effect relations		certain	computation	compromise
		uncertain	judgment	inspiration
			certain	uncertain

Knowledge about preferences
regarding possible outcomes (p 134)

Each type of 'knowledge' situation requires a different type
of decision making. If there is certainty regarding cause/effect
and desired outcomes, Thompson suggests the decision will result
from a computational strategy. Though much data may be present
and the computations complicated, the decision is arrived at
through known means to achieve known and desired ends. In a

situation where outcome preferences are clear, but cause/effect knowledge is lacking, the decision must proceed from a _judgemental strategy_. If the reverse holds (cause/effect relationships are known, but preference is not) then the decision must proceed through a _compromise strategy_. Finally, there is the situation where both cause/effect and outcome preferences are uncertain. In an interesting reflection of transcendent theoretical under-pinnings, Thompson suggests that in this situation, if a decision comes at all, it must derive from an _inspirational strategy_ (pp 134-5).

This typology is an important aspect of Thompson's concept of communication. The rest of the theory has directed analytic attention to the dominant coalition and raised expectations that this group coordinates the organization through manipulation of exchange relationships. In a sense, the dominant coalition sets the 'environment' for the rest of the members. Thus, this typology sorts the various possible states of knowledge about the organization's environments held by these key actors. We have a research agenda which directs attention to the knowledge and beliefs of specific members as a method for understanding the overall organization. We are, therefore, interested in how these specific members 'gain knowledge'.

This leads to a requirement for a theoretical treatment of the mechanisms of 'environmental perception'. These mechanisms appear under the label 'administrative styles' (p 151). Since contingencies and technologies change, the managerial hierarchy must be open to knowledge of new situations. Thompson argues that this cognitive openness comes from two 'search' activities which must be accomplished if the norms of rationality are to be continually satisfied in changing, complex situations. First, if

the environment signals a 'problem', it is assumed that the managerial hierarchy will seek a solution. This process is labelled 'problemistic search' and is presumed to be the administrative response whenever the members of the managerial hierarchy (through whatever means) become aware of a 'problem'. The awareness of a problem triggers a search for knowledge.

Thompson follows Cyert and March (1963) in suggesting that this search for problem solutions in real-life organizations is often 'simple-minded'. The dominant members, when faced with a problem will:

> (1) Search in the neighbourhood of the problem symptom and (2) search in the neighbourhood of the current alternative. When these two rules do not produce an acceptable solution, then add a third: (3) search in organizationally vulnerable areas. That is, in areas where slack exists or where power is weak. (p 151)

Thompson argues that this single type of knowledge generating activity is inadequate to fulfil the requirements of the organization. He argues from a simple instrumental base that, if the organization is limited to only 'problemistic search', it will not long be successful in adapting to new domains.

> On questions of domain, it would seem that the organization which anticipates institutional trends is in a better position to exercise self-control than the organization which waits until the domain problem arises. (p 151)

Thus Thompson offers the concept 'opportunistic surveillance' by which he means that members of the institutional level of the hierarchy will be constantly scanning the environment for signs of new opportunities. That is, in addition to guiding the administrative process which supports the current domain, and solving 'problems' as they arise, the institutional members of the organization should be open to new possibilities as well.

Thompson recognizes that opportunistic surveillance, while presumably required for long-term organizational success, is not

always accomplished.

> Yet in every field – education, medicine, industry, commerce, military, and government – instances are apparent where once robust organizations decline or pass through crises because they have failed to anticipate institutional changes. _What accounts for this relative scarcity of opportunistic surveillance_? We have no definite answer to that question, but we can seek clues in two directions: (1) in the attributes of the administrators as individuals and (2) in the situation in which they operate. (pp 151-152 – emphasis added)

This quotation is a critical, final example of Thompson's realist foundation. For him, the question is not how the administrators can 'misinterpret' the signals in the environment. Rather the requirement is to explain why the administrators do not look at all. Again, the environment is signalling new possibilities. If the administrators could simply be brought to engage in opportunistic surveillance, they would perceive such possibilities. The question is not, 'How do people perceive?' but 'Why do they not look where they should?' The members of the dominant coalition can, of course, direct their attention where they will, even if this results in organizational malperformance.

Eventually, however, the norms of rationality will have their judgemental way.

> If our thesis in this volume is correct, task environments generally act as constant tests of complex organizations, signalling errors of omission or commission and often intervening when organizations fail to heed such signals. (p 155)

For Thompson, 'communication' is a multifaceted, theoretical support of the managerial control theory. 'Internally', communication is the method by which the managerial control hierarchy directs the activities of the rest of the members. 'Externally', it is the method by which 'the environment' directs the managerial hierarchy. The transcendence of 'control' is thus completed through 'communication'.

3.3 BATESON ON COMMUNICATION.[1]

This is a continued exploration of Bateson's 'creatura' theories. In this world view, phenomena come into the realm of analysis as ideas or 'difference'. In the previous chapter, Bateson's ideas were partially presented through a thematic focus on 'control'. Here, the presentation will be completed by focusing explicitly on 'communication'. Three of his theories will be described in detail: the logical categories of learning and communication, the theory of 'context markers' or framing, and the double bind hypothesis. Prior to an examiniation of these three theories however, Bateson's general thoughts on communication will be laid out. In this introductory section, his theoretical commitment to an 'active receiver' model of communication along with his general approach to all communication phenomena will be described.

Again, it is important to appreciate the vigour with which Bateson embraces a nominalist view:

> It is significant that all perception - all conscious perception - has image characteristics...When somebody steps on my toe, what I experience is, not his stepping on my toe, but my _image_ of his stepping on my toe reconstructed from neural reports reaching my brain somewhat after his foot has landed on mine. Experience of the exterior is always mediated by particular sense organs and my creation, and my experience of them is subjective, not objective. (M39 - emphasis in original)

The perceiving organism does not view the external through 'windows on the world', but rather transforms a complex set of signals, through some form of active mediation, into 'images of the world'. Bateson's world is a Berkeleyan world. He consistently rejects the assumption that any perception is passive.

For this reason, the scientist analysing other people must

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1. As in the previous chapter, the following abbreviations will be used for references: N, _Naven_; S, _Steps to an Ecology of Mind_; M, _Mind and Nature_.

seek to understand, not 'reality' as it stands, but the process of image construction and to the extent possible, the images which other people have created. In 'communication' this requirement is no different.

> The reception of message material by one organism is not fundamentally different from any other case of perception. (S383)

The regimen of Batesonian analysis is clear. In studying people we are studying the 'reaction of individuals to the reactions of other individuals' and we must seek understanding in the active perceptual mediations of the reacting individuals rather than in the pattern of the situation as perceived by the researcher.

Bateson's thoughts and concepts to aid this search are familiarly patterned. Again, they are a 'cybernetic' framework with strong attention to the theory of logical types. As a foundation, his learning theory was briefly introduced in the previous chapter and 'learning' will continue to serve as the basis for introducing all of Bateson's work. He discusses two sets of theories, one which he continues to label 'learning theory' and the other 'communication theory'. Essentially, his learning theory is a speculative model about the kind of 'mind' which must be present in the perceiving organism to allow the type of activities we observe. For purposes of this thesis, his learning theory is his model of human cognition. Though he never focuses his attention on the level of an individual in isolation, this is his 'model of man'. His communication theory, while very similar in structure, is focused more precisely on intra-individual aspects of behaviour. Here, his application of the theory of logical types is a method of sorting the 'abstractness' of messages. Communication theory is a general focus at interactional

levels which relies, theoretically, upon the learning theory as a description of the individuals in the exchange. The very close relationship between 'learning' and 'communication' is critical.

> [In addressing] those learnings which constitute changes in second order learning [learning 2], I have in the past called these phenomena 'deutero learning', and have translated this as 'learning to learn'. It would have been more correct to coin the word, 'trito learning' and translate it as 'learning to learn to receive signals'. (S220)

and

> Multiple levels of learning and the logical typing of signals...are two inseparable sets of phenomena - inseparable because the ability to handle multiple types of signals is itself a _learned_ skill and therefore a function of the multiple levels of learning. (S176)

For Bateson, 'learning', 'perception', 'communication', and 'signals' are all very similar aspects of human process. If confusion in presentation is to be avoided, the relationship of these concepts must be appreciated. 'Communication' refers to a perceptual exchange among individuals. The 'learning theory' serves as a description of processes of change 'internal' to the individual which result in the perceptual construction. In human communication, perception is complicated further in that 'the signals' emanate from a 'learning system' as complex and capable as the perceiver. _All_ participants in any process of human communication are constantly learning, learning to learn, and learning to learn to learn.

3.3.1 The Logical Categories of Learning and Communication (S250).

The general Batesonian lexicon and the theoretical relationships among 'communication', 'learning', and 'context' must be explored in greater detail. This epistemological collage is important for two reasons. First, it is a critical set of general guidelines for social research. Second, it is the basis for

the two more specific theories to be discussed later in this chapter.

We shall begin this explanation by assuming an abstract observational position 'outside' a communication exchange between individuals. This, for Bateson, is clearly an uncomfortable position because 'communication' is a form of 'perception', and the human observer of human communication may never truely attain such a detached stance. None the less, the abstraction is necessary to continue the discourse (S336).

The general thrust of Bateson's communication theory is best exemplified in his interpretation of two monkeys in a zoo engaged in play (S150). (He further examined this theory by observing other mammals including wolves, dolphins, and people.) From this commonly observed 'show', Bateson derived much more than entertainment. He saw a complex, multileveled communicational transaction. 'Play' is a special form of activity. The monkeys, in cavorting about the cage, amid screams, nips, and bouts of wrestling, are engaged in the same activities they would engage in if they were fighting. In fact, the monkeys <u>are</u> 'fighting', however, they 'know' (as does the spectator) that this is not a 'real' fight but 'play'. This nuance is critical. Somehow, the monkeys must agree to behave <u>as</u> <u>though</u> <u>they</u> <u>were</u> <u>fighting,</u> <u>but</u> <u>not</u> <u>fight</u>. That is, the message, 'This is play' must become evident to all.

The message, 'This is play' is of a special logical type. Presumably, monkeys communicate through sounds, motion sequences, body positions, various sorts of touching, and smells. By certain combinations of these devices, the monkeys are observed to communicate a great deal about their relationships. Mating activities, dominance patterns, or territorial rights are all as-

pects of 'observable' monkey communication. Thus, observers commonly accept that messages which might be translated into English as 'I am the senior male' or 'This is my territory' are all possible for monkeys to 'send'.

However, 'This is play' is not a message directly about relationships. It could be translated to mean, 'I am going to act as though I were asserting my dominance, but my intention is not to assert my dominance. It is to play.' 'This is play' is a message about a message, a metamessage. In fact, it is a meta-message which negates a message. If we call 'This is a fight' the primary message, we can see a secondary message which states, 'This fight is not a fight.'

Bateson, characteristically following Russell and Whitehead, points out that this secondary message is of a different logical type than the primary. It is a more abstract metamessage which classifies the message. If we were dealing with simple 'stimulus-response' in a physical sense (that is, if we were dealing with Newtonian cause and effect) we could ignore meta-messages. However, in dealing with communication (transmitting 'difference' rather than 'force') we must be primarily concerned with these classificatory metamessages.

This leads to the most general form of Bateson's communication theory as it applies to human beings (S150). Human communication must always operate at several, contrasting levels of abstraction. The label 'primary message' refers to the 'simple' denotative stream of words in an utterance. This primary message is 'about' things, relationships, or concepts. However, there must also be more abstract forms of messages where the subject of discourse is the primary message. The primary message must be classified or sorted in some way. In everyday human communica-

tion, one person may make an utterance, but the 'receiver' must sort through abstractions of signals to create a 'message'.

Two aspects must be made explicit. First, it is clear that 'meaning' in this model does not derive directly from the 'primary' message. The 'meaning' of an utterance depends a great deal upon how the receiver classifies the message. Second, metacommunication is often not verbalized and often not a signal created 'intentionally' by the 'transmitter'. These more abstract forms of communication derive from the learning characteristics of the receiving individuals. Hence, we must now turn back to Bateson's learning theory.

In Bateson's learning theory, the assumed observational status (again not truely attainable) is 'inside' the receiver. This theory addresses how the perceiver deals with 'message' inputs. The theory attempts to describe how the perceiving individual answers a two-tiered 'question': '(1) Do I perceive a signal, and (2) what does it mean?' Bateson does not postulate that this interpretive process is explict, 'rational', or even conscious. It is the natural, unconscious nature of such complex mental activity that gives a simple realist position such common appeal. Perception, while necessarily complex, abstract, and multileveled, occurs so simply for humans that apparently a simple realist explanatory model of perception 'works'. None the less, Bateson argues, the mediations of an active perceptual process are critical in understanding all human activity, most notably communication. The illusion of 'real' reality is the 'epistemological lunacy' which he attempts to counter.

This is the reason that all of his theories hinge on 'learning'. Learning 1 is receiving signals, learning 2 is interpreting those signals, and learning 3 is examining how one interprets

signals. The individual exists in a milieu of 'potential' mes-
sages. However, there is no inherent 'meaning' in the signals
(M24). Rather, the receiver must know where to look, how to
look, and what interpretations are 'correct'. This perceptual
ability is developed over the individual's lifetime and, though
humans are highly skilled in this endeavour, it is not a skill
which may be taken for granted by the scientist seeking to under-
stand human activity.

Bateson argues that much perceptual ability is, no doubt,
determined genetically. For example, humans can hear only over a
certain frequency range and see only certain colours. However,
for Bateson, there is no doubt that other aspects of perceptual
ability are learned. For example, for some human beings, a
certain combination of colour, shape, sound, and movement is
perceived as 'automobile moving down the road'. This, of course,
implies a 'nature or nurture' question which Bateson, perhaps
wisely, side-steps. The exact borderline between the two is
unimportant. What is important to Bateson is that regardless of
the nature/nurture relationship, much perceptual ability is ob-
viously learned and neither innate in the 'outside' world nor
necessarily consistent from person to person.

The strength of Bateson's belief in the interpretive basis of
perception was increased by his participation in the Ames experi-
ments (M40-45, S455). This series of experiments was essentially
a presentation of optical illusions. The experiments were based
on the assumption that visual patterns are constructed by the
individual through a variety of cues including binocular vari-
ance, size comparisons, parallax, and motion, all of which are
mediated and adapted through experience. A person 'knows' that
rooms and windows are rectangular, household items are of a

certain size, when we are moving, distant objects 'move' slower than near objects, and the like. Ames, by artificially manipulating these various cues, introduced conflicting situations. In these manipulations various illusions were accomplished. For example, trapizoidal rooms were made to look rectangular and objects were made to 'grow'. Such optical tricks are well known. Magicians have been exploiting them for thousands of years. For Bateson, however, this experience was more than a parlour trick. For him, it was experimental confirmation that learning 1 (receiving signals) was closely tied to previous learning 2.

Thus, learning 2 is, most generally, a process by which the individual learns to sort signals or 'punctuate a stream of events' (S268-271). In essence, the process implies that the individual takes in signals which, because of his learned perceptual skill, he can sort into a constructed 'reality'. This process holds for such simple 'physical' perceptions as 'This room is rectangular' as well as for more abstract perceptions such as 'Good managers plan strategically.'

Learning 2 is an interpretive framework for primary signals. Importantly, learning 2 is therefore at least partially self-validating. In the Ames experiments, though Bateson consciously 'knew' that the subject room was a trapizoid, he 'saw' it as rectangular. In the more abstract example introduced here, with the learning 2 concept 'Good managers plan strategically', the individual perceiving a 'manager' will interpret actions and utterances through that framework. The 'truth' or 'falsity' of the learning 2 knowlege is not directly at test. Rather, the learning 2 concept allows the person to answer 'What does this mean?' If, over time, the person comes to perceive a variance between learning 1 and learning 2, the abstract framework may

still not be rejected. After the Ames experiments, Bateson still held the learning 2 concept 'Rooms and windows are rectangular.' But he developed another abstract concept which might be translated as 'In the Ames experiments, some rooms are trapizoidal.' Likewise, if one comes to believe that a particular 'manager' characteristically does not plan strategically, then the learning 2 concept may still remain intact. The situation can easily be 'explained' by the 'fact' that this manager is not a good manager.

Learning 2 might be seen as a form of perceptual assumption. This characterization is misleading. 'Assumption' has too great a 'rational' and 'articulated' connotation for the concept developed by Bateson. Learning 2 is different from 'assumption' in three very important and interrelated ways. First, learning 2 is largely not articulated. Human beings often are not consciously aware of the effect their previous learning has on their perceptions. Further, in those cases where learning 2 is articulated, the very 'coding' of unspoken 'ways of perceiving and interpreting' into verbal language is a process which may alter the concept. Second, 'assumptions', as commonly used to describe 'decision making', stand in explicit, lineal 'if-then' relationships. That is, the assumption is clearly stated and the relationship between the assumption and the conclusion is made clear. The distinction between learning 2 and learning 1 is not of this 'if-then' variety. Bateson did not observe Ames's trapizoidal room and mentally calculate, 'If my assumption that rooms are rectangular is to remain consistent, then I must see this set of signals as a rectangular room.' He merely perceived the room as rectangular. Finally, and most importantly, the word 'assumption' evokes a set of presuppositions which remain constant

through some time period. This is not the case with learning 2. A person's learning 2 schemata are constantly subject to reaffirmation and change. They stand in recursive relationship with learning 1 and learning 3. For Bateson, every transaction is a context for multiple learning (S217) in which the person selectively perceives and interprets signals in his milieu based on his previous and constantly changing experience.

Thus learning 2 is much more related to a view of 'context building'. Bateson argues that message material or signals must be seen as having no meaning until they are seen in some 'context' (M24). 'Context' is an important concept for interpretive theorists (Sperber 1974, Gowler and Legge 1978). Clearly the phrase, 'Twas brillig, and the slithy toves did gyre and gimble in the wabe' is meaningless, until is is seen in the context of Alice in Wonderland (Gardner 1965). Equally, but perhaps not as clearly, the sentence, 'All personnel will meet at 10.00 to discuss the new building.' has no meaning until it is seen in some context.

That 'context' is important is not subject to much debate. This proposition is reflected by both Thompson and Bateson. In Bateson's theory however, the difference is that the context is not simply given to the receiver (nor to the researcher). Signals are present which the receiver interprets by building a context around them (M56). In human communication, person A may hold some 'idea' which he intends to 'share' with person B. To this end, A may make certain sounds and take certain actions. Person B builds a series of contexts which allow him to perceive meaning in the sounds and actions. Whether the 'idea' which B constructs is the same as A intended is something A can never confirm for certain because he can never know what contexts B has

built.

But what is context? Bateson never explicitly defines this term. In fact, he argues that it may be indefinable (M24). We shall explore the concept 'context' in greater detail below, but by way of introduction, it suffices to offer a tautology. Learning 2 is a process of building contexts around primary signals which make them meaningful to the perceiver and 'contexts' are the result of learning 2. Thus, 'context' is an abstract concept which the scientist uses to label the way an individual 'punctuates' events and signals to arrive at a meaningful picture of the whole. If we observe communicative similarities in individuals, these derive not from characteristics of 'context', but from the characteristic ways of creating contexts.

'Contexts' must be constructed in a recursive chain of increasingly abstract classifications. If there is a 'primary' signal, there must be a classifying context. The context must also be classified by a meta-context, which must be classified, and so on in an indefinitely long chain. This must lead to a question concerning the relationship of 'primary' to 'meta' or 'part' to 'whole'. Bateson's view of this relationship follows his epistemological foundations:

> In [my work] I speak of an action or utterance as occurring 'in' a context, and this conventional way of talking suggests a particular action is a 'dependent' variable, while the context is the 'independent' or determining variable. But this view of how an action is related to its context is likely to distract the reader - as it has distracted me - from perceiving the ecology of ideas which together constitute the small subsystem which I call 'context'. This heuristic error - copied like so many others from the ways of thought of the physicist and chemist requires correction. It is important to see the particular utterance or action as part of the ecological sub-system called context and not as the product or effect of what remains of the context after the piece which we want to explain has been cut out from it. (S309)

It is clear that Bateson's theoretical position on human

communication is far-reaching and potentially applicable to many
fields. For the requirements of this thesis, his position can be
summarized:

1. 'Context' is an abstract concept which the observer uses to
label an assumed process through which the individual perceives
and ascribes meaning to his perceptions. The person's actions
are assumed to be a result of this sense-making activity. This
is a learned skill and, therefore, in understanding human be-
haviour, we must be interested in the individual's previous
learning 2 and current learning 1.

2. Higher levels of learning cannot be switched off in human
beings. Even if we ignore it, every person is constantly 'learn-
ing' at high levels of abstraction.

3. 'Messages' exist at many interrelated levels. In human com-
munication, the 'transmitting' individual sends only signals,
some intentional, some unintentional. The 'receiving' individual
interprets all signals (intentional or not) in light of his
previous learning.

4. To the extent that an observer seeks to 'explain' the actions
of other human beings, he must make ultimately untestable assump-
tions about the context which the others created.

3.3.2 Context Markers, Framing, and Learning 2.

A major difficulty derives from this view of 'contexts'. For
a realist, the context is given, the stimulus is 'real', the
message is known. For Bateson, the context is constructed, the
stimulus is meaningless, the message must be created. Therefore,
he cannot rely on a typology of contexts as a guide to 'meaning'.
He must develop a typology of processes by which active per-
ceivers create context. In other words, he must develop some

view as to how the cascading chains of abstraction are con-
structed. There must be communication, metacommunication, meta-
metacommunication and so on. The primary message must somehow be
classified. This leads to Bateson's theories of 'context mark-
ers' and 'framing'.

As stated above, 'context' is a concept used to label the
abstract classifications constructed by the perceiving indi-
vidual. Bateson postulates that this construction is accomplish-
ed by the skilled perceiver who has learned to recognize some
aspects of the signal milieu as clues about the 'appropriate'
context. These clues which the individual relies upon are label-
led 'context markers'. The term 'frame' is very similar to
'context'. Through an analogy to picture frames, it refers to
psychological borders which the individual constructs around a
given situation. That is, the individual perceives 'context
markers' which he uses to 'frame' the situation. Through 'con-
text markers' and 'framing', the indivudal interprets the
'primary signals' (S159, S260).

These 'context markers' are a critical aspect of human com-
munication. The words 'I am going to kill you' mean nothing by
themselves. Yet if these words are spoken on a 'stage' during a
'play' (context markers) they may 'mean' that one character in a
story is threatening another. The message is 'framed' within the
context 'stage play'. Likewise, if the words are spoken by an
'assailant' in a 'dark alley' (context markers) the 'meaning' is
quite different.

Two aspects of 'context markers' are critical. First, if the
individual sees enough context marking, the 'primary message' may
not need to be explicit at all. 'I am going to kill you' actual-
ly spoken aloud may be unnecessary. Much of what we commonly

think of as 'communication' in the passive receiver model (primary messages), may be least important to analysis of 'communication' in this active receiver model. Second, and given the importance of metacommunicative framing, perhaps paradoxically, natural language does not directly address such issues. For metacommunication and context marking, we rely predominantly on non-verbal aspects such as posture, gesture, expression, intonation, and physical surroundings (S174).

This is important. It is possible and common to separate verbal and non-verbal modes as different channels of communication. In a passive receiver model, the transmitter can be seen to send multiple primary messages through various media. Bateson argues that this is a gross error in logical typing. The active receiver is bombarded with an ensemble of signals which he sorts, classifies, and comes to understand. Verbal and nonverbal 'communication' are thus not separable, but are different aspects of the total 'message bearing' situation. Body motions, para-language, 'social' setting, and 'physical' setting are all part of the context marking which indivduals use to create meaning (S387). That such aspects of 'communication' are not always part of the 'intentional' action by the transmitter does not make them any less communicative.

Clearly Batesonian theory places the social scientist in difficult territory. The perceptual milieu is complex and very difficult to analyze in any articulate way. 'Context markers' and 'framing' are Bateson's offering to aid the analyst. They are methods of articulating a largely inarticulate process. Examples, at least at a gross level, can be given. Bateson includes such items as the Pope's throne from which he makes announcements ex cathedra, the handshake before the fight, and the

observation of etiquette (S261). From the ethnographic record, examples of 'context markers' would be the office, the planning meeting, the coffee room, or the three-piece suit. At another level, context markers of importance to this discourse are 'D. Phil. thesis' or 'supplication'. All serve as clues which a receiver uses to 'frame' his perceptions. They 'give' active receiver communicators metacommunication about primary (and meaningless) messages.

The impact of all this is clear. The focus of interest for analysis has now shifted from the 'primary message', either in spoken or written form, to the previous learning 2 of human actors and the 'context building' methods they bring to a current situation. Following Bateson, the social researcher has shifted not only from the transcendent control model, but also from messages and meaning taken for granted. We are now interested in how people build context, what they perceive, how they interpret, and what they 'learn'. We are no longer able to retreat to the assumption that these aspects of collective human action can be taken for granted.

3.3.3 Paradox and Equivocation: the double bind.

The theoretical framework has now led to a belief that the individual will construct 'meaning' from 'primary messages' and a series of 'metamessages'. Previous learning, at multiple levels, will allow the individual to construct a context, a metacontext, and hence, 'understand' the primary signal. No attention has yet been drawn to the possibility of contradictions among the various contextual levels. These contradictions are addressed in Bateson's famous 'double bind theory' (M128, S178). This theory essentially addresses transcontextual contradiction, or paradox.

A paradox commonly takes the form 'If P, then not P.' In the double bind theory, 'If P' often exists at one level of communicative abstraction, while 'then not P' exists at another. Simply, in a double bind situation, the individual must 'be wrong' at some level. If the individual interprets the context markers 'correctly' (that is, as he has learned to in the past), he will not be able to make sense of the 'primary message'.

Bateson exemplifies this situation through an experiment performed with a dolphin in which the dolphin and a trainer were to demonstrate 'operant conditioning' (S248). The dolphin had previously learned that when she performed a certain action (a head nod), the trainer would blow a whistle and subsequently give her a fish. This was a simple reward reinforcement of the act. The dolphin was capable of building the context 'demonstration tank' and responding in such a way as to get fish. She understood this part of her world. In the experimental situation however, the trainer no longer 'reinforced' the head nod, but wanted the dolphin to perform a different action each time she entered the demonstration tank. 'Head nod' was replaced by the more abstract concept 'new action' as the correct response. That is, the single action was now replaced by a class of actions; there was a context of contexts. The dolphin's previous learning had not prepared her to discriminate at this level and she was confused and frustrated. When she did what she 'knew' was correct, she was wrong. When she did what she 'knew' was wrong, she was correct. This is a double bind.

Eventually, after fourteen sessions, the dolphin excitedly put on an elaborate performance including four pieces of behaviour which had never been observed in that species of animal. As a sophisticated learning system, she eventually overcame the

double bind. She exhibited one form of resolution of such situations which is learning at a more abstract level (learning 3).

Bateson's primary use of the double bind concept is as a theory of schizophrenia. He postulates that the pathology commonly called schizophrenia results from continued, inescapable double binds. That is, the schizophrenic has been forced, over time, to constantly 'be wrong' at some level. Through this long-term, abstract learning, the person's interpretive schemata become twisted. The double bind hypothesis states that schizophrenia is precisely a learned inability to set metacommunicative frames (S182). This hypothesis has been an important contribution to clinical psychology (Laing 1967).

However, in examining the ethnograhic record in later chapters, we are not interested in schizophrenics or dolphins. Our interest is in understanding and describing 'normal' human communication and 'normal' organizational phenomena. For this endeavour, a subtle aspect of the double bind theory is critical. Everyday life is not characterized by a lack of double bind-like contradictions, but rather by a common ability to reconcile such paradoxes.

> Our central thesis may be summed up as a statement of the necessity of the paradoxes of abstraction. It is not merely bad natural history to suggest that people might or should obey the theory of logical types in their communications; their failure to do this is not due to mere carelessness or ignorance. Rather, we believe that the paradoxes of abstraction must make their appearance in all communication more complex than that of mood signals, and without these paradoxes the evolution of communication would be at an end. Life would then be an endless interchange of stylized messages, a game with rigid rules, unrelieved by humour or change. (S166)

The double bind theory directs our attention to the interpretive latitude which all 'normal' human actors bring to any communicative exchange. The lexicon and framework gives us a way

of sensibly addressing a myriad of conflicting 'meanings' of a specific utterance or action and relating it all back to the collective activity of higher levels of 'learning'. The analyst is no longer searching for the 'true' meaning of an utterance or even for consistency among various interpretations. He is seeking to understand how each individual comes to see the world and what actions result.

A brief example from the ethnographic record will serve to make the position clear. Frequently during the research, 'managers' spoke the words, 'I do not know' in response to questions from 'subordinates'. In the organization, which was anticipating great change (including a move to a new building), most people were concerned about the 'current' details. The situation was fluid to a degree that major changes in plans were happening, literally, overnight. No member of the organization was certain of the 'current' plan. This was true for directors, managers, and non-managers. Thus, often, when a manager answered a question with 'I do not know', he 'intended' to send the metamessage, 'I am telling the truth.'

Often, this was a double bind for the receiver. The utterance 'I do not know' conflicted with previous learning 2. Therefore, it was open to many legitimate interpretations. In the context marker 'formal organization', managers do know plans. Thus, if one says 'I do not know the plan' the 'meaning' of the words is equivocal and a paradox is present. Bateson suggests, however, that human beings can overcome such paradoxes and that there are many possible resolutions. Certainly, one reasonable interpretation of the words has already been suggested - that the situation was so dynamic that it was perfectly possible that the manager, in fact, did not know. In essence, the frame 'rapid-

change' classifies the frame 'formal organization'. This interpretation was reported by several members of the organization.

However, other interpretations were also recorded. Since 'competent' managers are supposed to know plans, 'I do not know' was often tantamount to a public admission of incompetence. Since 'competent' managers know plans, but need not necessarily make plans public, 'I do not know' was often a statement roughly translated into 'Of course I know, but I will not tell you.' Since the managerial hierarchy is supposed to inform managers along 'official channels', 'I do not know' spoken by one manager was often a statement 'My boss is not competent.' Though we may seek the 'real' meaning of the words, couched in Batesonian theory, it is clear that all of these 'meanings' are 'real'.

Our focus is now far beyond human communication as portrayed in the passive receiver model and reinforced by the conduit metaphor. Through Batesonian theory, we are now on the brink of a redefinition of 'the organization'. Here, the organization is not seen in terms of the transformation of physical resources and market-place exchanges. Rather, it is portrayed as a complex learning environment where sophisticated individuals react to the reactions of others.

CHAPTER 4

CONSOLIDATION

> What prevents theoretical insights from going beyond existing
> limitations and changing to meet new facts is just the belief
> that theories give true knowledge of reality.
>
> (Bohm 1980, p 6)
>
> In this way the finite intellect deals with the myth of
> finite facts. There can be no objection to this procedure,
> provided that we remember what we're doing.
>
> (Whitehead 1938, pp 13-14)

4.1 INTRODUCTION.

As shown in Chapter 1, interpretive research in organiza-
tions, while growing in popularity, offers neither a coherent
explanatory framework nor even a well-accepted method of ap-
proach. The relationship among 'theory', 'fact', and 'research'
is a subject of much debate. In this thesis, we shall accept the
common assumption that in research much of what is considered
important or consitutes a suitable 'explanation' derives from the
theoretical framework which is brought to bear[1]. Further, once
accepted, such theoretical frameworks are not directly subject to
test in the research act (Kuhn 1970). The framework serves as a
guide to the researcher and as a method of generating and inter-
preting data. Thus, the relationship between 'theory' and 'data'
is circular. The framework itself, therefore, remains somewhat
isolated from examination.

It is for this reason that so much effort has been devoted to
developing two theoretical frameworks. Since no amount of re-
search will explicitly confirm either view and there is presently

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1. This assumption is also accepted by Thompson (1967, p 101) and
Bateson (1958, p 261).

no consensus in organization theory as to which might constitute 'proper' interpretation, both will be applied. In the present research, an ethnographic record spanning twelve months in the organization called DAE has been generated. The record includes conversations with and among the organizational members, descriptions of their actions (as well as their explanations of their actions) and observational descriptions. Documents and 'official' reports of organizational accomplishment were collected. In this way, an extensive and detailed record of the activities within the organization was developed.

As Turner (1983) has pointed out, such a research method generates a large amount of non-standard data which makes analysis problematic. In fact, such a method does not directly generate 'data' at all. Rather ethnographic methods only directly generate 'field notes' (Wax 1971, Spradley 1979). The sorting of these notes into categories such as 'data', 'anomaly', and 'noise' is only accomplished through the application of some interpretive framework. To a large degree, the ethnographer makes records 'mindlessly', not knowing at the time what is 'important' and what is not. In his research, he is often guided as much by the 'subjects', unpredictable circumstances, and a vague feeling that what he is recording may prove useful, as by any specific theory. At the end, he is left with notes which have been sorted by these 'atheoretical' factors rather than a coherent interpretive framework. It is argued here that the work of Thompson and Bateson offer two distinct interpretive frameworks through which the data can be sorted. This chapter is a brief consolidation of the theoretical distinctions.

Prior to this consolidation, it is important to point out one critical area of agreement between Thompson and Bateson. Both of

these theorists believe that social research is possible.
Thompson is a very conventional organizational theorist who has
had a large and continuing impact on the field. Bateson, it has
been argued, is an 'anti-organization' theorist and certainly is
far from conventional. They offer different approaches to social
research, particularly organizational research. Yet, while they
view 'social pattern', 'characteristic behaviour', and 'context'
quite differently, neither rejects such notions altogether.
Therefore, while we shall be able to exploit two different frame-
works, we will not be guided by the most radically different
views that it is possible to imagine. Solipsism, nihilism, and
extreme existentialism shall not be explored. Though we will be
led to different interpretations of the ethnographic record, we
will not be led to reject the very notion of social research.
Bateson's theories are 'radical' only in relation to the conven-
tion of organization theory and not to a larger view of philos-
ophy.

4.2 TWO MODELS.

For ease in discourse, the framework offered through the
theories of James Thompson shall be labelled 'Model 1' and the
Batesonian theories, 'Model 2'. These labels hearken back to
all that as been developed in the previous two chapters.

The models are multileveled sets of ideas. They include con-
ceptual tools, underlying epistemology, ideology, research
agenda, expectations, and a lexicon. If the labels 'Model 1' and
'Model 2' do not evoke all of these aspects of the work of
Thompson and Bateson, then their use is dangerous. These two
models are offered as fundamentally different approaches to the
ethnographic record. All levels must be kept in mind. The

multidimensional nature of these two models is summarized in figure 4-1.

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                          FIGURE 4-1

          MODEL 1                        MODEL 2

Control Assumption:             Control Assumption:

       Transcendence                    Immanence

  Managerial Control             Cybernetic Epistemology

     -Dominant Coalition            -Mind
     -Power                         -Schismogenesis
     -Interdependencies             -Learning theory

Communication Assumption:       Communication Assumption:

      Passive Receiver                Active Receiver

     -Exchange                      -Context markers and
     -Transportation                 framing
     -Managerial control           -Logical typing of
       -Coordination                 communication and
       -Environmental                learning
        perception                 -Double bind
```

Model 1 not only refers to, for example, 'exchange' and 'power' as specific conceptual tools, but to the underlying epistemology in which 'exchange' and 'power' make sense. Likewise, to apply 'schismogenesis' or 'context markers', one must think in terms of the entire Model 2 epistemology. This shift of epistemological foundation is as critical as the specific conceptual tools. With Model 1, we shall be approaching analysis with a specific epistemology which is based on transcendence and realism. With Model 2, we shall be looking at the social world through a philosophy based on immanence and nominalism.

4.3 MORE DISTINCTIONS.

In the previous two chapters, the critical distinctions between Model 1 and Model 2 have been explored in light of

'control' and 'communication'. These thematic foci have allowed explicit treatment of basic differences. However, there are many residual distinctions which are also important. Each model relies on presuppositions, simplifications, and derivative stereotypes which have only been partially illuminated thusfar. A brief statement dealing with some of these additional distinctions is necessary.

Here, as in the previous two chapters, the purpose is not to show that one model is 'better' or 'more correct' than the other or that one makes stereotypes while the other does not. Rather, the purpose is to make the simplifications, which each theory must inevitably offer, more obvious. These additional distinctions are summarized below in terms of level of stereotypes, type of analogy, language of presentation, and focus on 'self-organization'.

Model 1.

A. Level of stereoptypes - Model 1 offers stereotypes of product rather than process. In this model, the social process is assumed to be 'in place' and the resultant 'social product' is stereotyped. The model of man is essentially a stereotypic presentation of career building individuals equipped with similar, cognitive apparatus. The individuals in a society (and consequently in an organization) are treated as though they all shared similar perceptions, aspirations, and language. At the level of society, 'norms of rationality' are stereotypic products of unexamined social processes. These norms are assumed to give direction to complex organization.

B. Type of analogy - Thompson's illustrative examples and empirical bases are businesses, hospitals, military units, and universities all in 'modern' societies. Model 1 suggests that we learn

about complex instrumental organizations through the study of complex instrumental organizations.

C. Language of presentation - Model 1 portrays the organization in predominantly an economic language. All organizations, whether they are strictly manufacturing firms or not, are portrayed as processes which transform resources into 'saleable' products. For example, universities take in 'resources' (students, teachers, equipment, and buildings), apply an 'educational technology', and dispense the abstract output 'education' (Thompson 1967, p 19). The underlying metaphor for all instrumental organizations is 'the production line'.

D. Focus on self-organization - Model 1 does not focus on 'self-organizing' aspects of collective activity. Thompson recognizes that 'self-organization' is possible in the form of synthetic organizations which spring up to deal with emergency situations (Thompson 1967, p 53). These organizations cannot rely on pre-designed formal lines of authority. They simply emerge to cope with the situation. Synthetic organizations are possible, but though they often seem to 'work', they are inefficient. In this type of situation, the single objective is to cope with the emergency with cost as no object. Inefficiency is acceptable. However, under norms of rationality, the instrumental organization must attain efficent operations. Therefore, the collective action must be 'organized' by the transcendent control hierarchy rather than emergent from any 'self-organizing' characteristics of the interaction.

Model 2.

A. Level of stereoptypes - Model 2 offers stereotypes at the level of 'process' rather than 'product'. Social products, in

the form of homogeneous individuals, steady social 'structure', or precisely shared 'meaning', are problematic. It is the processes by which individuals create the appearance of social structure or shared meaning that are stereotyped. In Model 2 the focus is on the 'continuity of process and the discontinuity of the products of the process' (Bateson 1958, p 293).

B. Type of analogy - Model 2 offers analogies for complex instrumental organizations from 'different' phenomena. Bateson's illustrative examples and empirical bases derive from sources like New Guinea head-hunters, dolphins, schizophrenics, and monkeys. Model 2 suggests that we learn about complex instrumental organizations through the study of 'communication' phenomena other than complex instrumental organizations.

C. Language of presentation - Model 2 portrays complex organization in a predominantly 'symbolic' language. Any collective of human beings is a set of ideas, imperfectly shared through the sophisticated learning capacity of the actors. Therefore 'economic' is not seen as a label of a type of organization, but rather as a label which clarifies the point of view of the observer (Bateson 1958, p 281). The underlying metaphor for organization is 'mind'.

D. Focus on self-organization - Model 2 focuses predominantly on the 'self-organizing' aspects of human collective activity. Here, any appearance of organizational 'structure' imposed from a transcendent 'force', is more accurately seen as a continual product of 'self-organization'. Indeed, the transcendent managerial hierarchy itself is a product of social 'self-organization'.

4.4 ANTICIPATION.

Models 1 and 2 offer different frameworks for the interpretation of the ethnographic record. Each has distinct strengths and weaknesses. Model 1 reflects the assumptions of and relies on the lexicon most common to organization theory (Burrell and Morgan 1979). The theory is comparatively simple, general, and clear. In attaining this clarity, it relies on simplifications and stereotypes which, taken alone, are difficult to defend either empirically (Neisser 1976) or philosophically (Harre 1979). Yet, as an ensemble, it offers a framework which draws attention to an organizational viewpoint. That is, it demands attention to the truism that the organization must be seen to fulfil some 'socially' accepted function. In profit making firms, in the United Kingdom, a profit must be made.

Model 2 is doubly critical of Model 1. It denies all unilateral constructs in social theory and challenges the view of communication through which a managerial hierarchy might affect its transcendent role. Model 2 reflects epistemological foundations and 'process-level' stereotypes that are much more defensible philosophically, but it largely ignores the 'economic well-being' of the organization. Thus, the potential contribution of Model 2 to 'practical' organization theory is not clear. Further, the penalty for the theoretical sophistication in Model 2 is that it is comparatively complex, abstruse, and specific[1].

Legge (1984) has argued that any theoretical position in social research will ultimately collapse into paradox. The paradoxes of Models 1 and 2 are explored in Chapter 8, but anticipating that treatment, the basic difficulties are now clear. Model 1, in

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1. The relationship among simplicity, accuracy, and clarity of theory is more fully discussed on page 29.

leading to a clear and concise interpretation of the ethnographic record, must rely on a shifting stereotype of human beings which selectively denies the higher level cognitive ability of the the species (Pondy and Mitroff 1979). Model 2 derives from a view of human actors which attempts to rectify the theoretical weakness of Model 1 and in doing so brings all 'knowledge' into phenomenological brackets. Model 2 not only places the 'manager' in a problematic role, but also places the 'researcher' in a problematic role.

We are now armed with two critically examined, sophisticated, and ultimately, limited frameworks for the interpretation of the ethnographic record. In the end, we are left with the continuing questions of all social research. The actions of people, whether 'symbolic' acts, 'physical' acts, 'collective' acts, or 'individual' acts constitute the field of inquiry. Models 1 and 2 provide interpretive frameworks and the members of DAE have performed the acts. It is to the 'data' in the ethnographic record we now turn.

CHAPTER 5

A DAE PRIMER

> Every ethnographer probably begins the task of writing a
> cultural description with the feeling it is too early to
> start...It is well to recognize that what you write is true
> of every ethnographic description: it is partial, incomplete,
> and will always stand in need of revision.

(Spradley 1980, p 160)

> What would we have to know to predict how a chess master will
> move his pieces, or his eyes? His moves are based on infor-
> mation he has picked up from the board, so they can only be
> predicted by someone who has access to the same information.
> If I play chess against a master he will always win, precise-
> ly because he can predict and control my behavior while I
> cannot do the reverse. To change this situation, I must
> improve my knowledge of chess, not of psychology.

(Neisser 1976, p 183)

5.1 INTRODUCTION.

This research examines a common organizational situation.
Stated most simply, a large, American, multinational firm, de-
cided to to expand its operations in the United Kingdom to in-
clude assembly and, eventually, production of defence and aero-
space goods and services. This entailed establishing a Defence
and Aerospace Electronics group (called by the members DAE) under
the legal and formal umbrella of the wholly owned subsidiary in
the United Kingdom. The original plan was to house DAE in a
purpose built building which was under construction. This new
building was to be a showcase of modern office design with a
mixture of open-plan and closed-plan offices, extensive applica-
tion of electronic technology, and a well designed shop floor for
future assembly and production. Three months before the new
building was to be occupied, however, an established and moder-
ately sized company was acquired and the plans for the new build-
ing were abandoned.

If one were interested only peripherally in DAE, then this characterization would be sufficient and one could argue that the entire situation is well within the normal 'stock of knowledge' of western social actors (Berger and Luckmann 1967). Certainly, most English speaking people are comfortable with the general labels used above to describe the situation. However, if one is to understand the analyses which follow in subsequent chapters, it will not be possible to remain on this simplified level. In later chapters, Models 1 and 2 will be applied to the ethnographic record compiled over the twelve month period from June 1983 to May 1984. However, prior to analysis, a basic foundation is required. It is necessary to generally describe the situation which the members of DAE faced and to introduce the vocabulary and manners of speech they used. This chapter fulfils this introductory purpose.

The chapter is divided into two parts. In the first part, DAE and its 'situation' are briefly described. In the second part, a very brief chronological presentation of the year at DAE is developed. The objective throughout is to lay a groundwork so that subsequent chapters can be appreciated. As Spradley (1980) points out, the difficulty here is a common problem for ethnographers. In presenting a complex social context, one finds no convenient starting point. The 'thing' to be described is an ephemeral web of recursive images which one has come to 'know' over the length of the field experience. As one increases complexity of view, descriptive discourse becomes increasingly difficult. This chapter is the minimum background required to understand the analyses.

5.2 THE SETTING.

The description of DAE must begin somewhere. As a literary convenience, this description begins with four parts, each high-lighting the situation in a slightly different way: DAE, the parent company, the industry, and finally, the acquisition.

5.2.1 DAE.

All of what follows in this thesis is about DAE. As stated above, the detail will increase and the viewpoints will shift as the analysis is more fully developed. However, initially, some basic 'facts' concerning the organization and a preliminary introduction to the actors are required.

On 1 January 1980, DAE officially came into existence. The 'strategic purpose' for the group as specified by the parent company was 'to grow a profitable business and provide a point of entry for Defence and Aerospace Electronics products, technology, and services to the U.K. market' (DAE Strategic Plan). During the first year and a half of operation, DAE was quite limited in size and scope. Initially, the organization included the group director, a director-level manufacturing expert, several engineer/marketers, and several clerical members. Revenue and activities were understandably limited at first. On one level, the first years were a continuation of the activities which the American parent company had previously established in the United Kingdom through a very basic 'field sales and service' operation.

On another level, these years were a time of discovery. The members were working to discover exactly how the strategic pur-pose with which they were charged might be fulfilled. There were many issues concerning the introduction of this corporate endeav-our into a new country which were not yet specified. At the level

of the parent company, the large-scale entry into a defence and
aerospace market outside of the U.S.A. was new. For the U.K.
holding company, working closely with the politically charged and
fast moving environment of defence and aerospace customers was an
area in which they had limited experience. DAE, of course, had
no history at all. Thus, though the basic goal of establishing a
rapid growth and eventually profitable business within the prod-
uct and market constraints implied by the title 'Defence and
Aerospace Electronics' was agreed, the details of how this could
and should come about were yet to be discovered. In the words of
one of the early directors:

Ted: We tried out some things and put forward our brightest
  ideas. We went through several gyrations and they were all
  shot down. I was to support [the group director] in the manu-
  facturing end. But each area we looked at required a huge
  investment to get in and had low margins once we got in. So
  gradually, we realized that we had to position ourselves more
  closely with MoD [the Ministry of Defence] and we had to become
  more British and be able to offer superior technology. So we
  started bringing in people with those kind of [defence indus-
  try] contacts like Matt and Nigel. [31 January 1984]

DAE was located near London (Berkshire) in three office areas
spread over several miles. The group director and his secretary
were located at the headquarters of the U.K. holding company in a
building called within the company, Site-1 or usually simply S-1.
A service centre for aircraft electronics (avionics) was located
approximately one mile away in a parent company warehouse (S-2),
and the remaining people occupied rented offices nearby (Westgate
House). These accomodations were temporary measures while the
organization was growing. For the time being, office area and
shop floor space were found wherever possible with little con-
sideration as to efficiency of the physical layout.

DAE was located in a town which is a recently developed
office and commercial centre with many large companies housed in

multi-story buildings surrounding an extensive shopping area[1]. The town centre is very compact. During the five minute walk from Westgate House to S-1, for example, it is possible to stroll through a large store to a covered shopping area and subsequently via escalators to S-1. Restaurants, banks, parking, and shops of all types are extremely convenient for people working in this town. Additionally, London, rail stations, and Heathrow airport are easily accessible.

By 1983, a basic 'structure of DAE' was known. The potential activities of the organization were specified into business areas; fundamental products were beginning to become clear; and the number of people employed had grown to approximately 35. Details of this basic orientation are shown in Table 5-1.

Of the 36 people in the organization, approximately 30% were in managerial positions, 25% were clerical or administrative, 16% were service technicians, and the remaining 30% were working in engineering or analysis positions. Seven of the employees were parent company 'long-timers' with more than three years service in the company. Another five had been with the parent company for between two and three years and the rest were recruited into DAE as their first experience with the parent company. The managers and marketers were all trained engineers. There were approximately six retired military officers in the organization. All members were British citizens.

By 1983, revenue stood at nearly £3.5m with a 'negative profit' rate of approximately 3%. Given the venture characteristics of this business, such a loss was considered quite reasonable by the DAE director and the parent company hierarchy. Indeed, a continued slight loss was considered by all to be a

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1. The town will be referred to simply as 'Berkshire'.

TABLE 5-1

Commercial Avionics	Location:	S-2 (Parent company warehouse. 1 mile from town centre.)
	Products:	Test and repair of parent company commerical avionics products and service, primarily central air data computers and inertial navigation reference platforms.
	Territory:	Europe and Africa.
	Personnel:	Approximately 15, primarily technicians.
Underseas Products	Location:	Westgate House (Leased offices in town centre.)
	Products:	Post design service, analysis, possible assembly and manufactung of underwater devices such as sonars, torpedoes, remotely piloted vehicles, ship control.
	Territory:	The Royal Navy.
	Personnel:	3 engineers in marketing and post-design work.
Military Avionics	Location:	Westgate House (Leased offices in town centre.)
	Products:	Sale of parent company avionics products for military use, e.g., gyroscopic reference platforms.
	Territory:	MoD.
	Personnel:	1 marketing engineer and 1 administrative clerk.
Defence Systems Electronics	Location:	Westgate House (Leased offices in town centre.)
	Products:	Essentially unkown. Potential in several areas including products, potential manufacturing and analysis contracts.
	Territory:	Various agencies of the British government, primarily the MoD.
	Personnel:	Approximately 6 engineers and analysts and several administrators.

necessary investment for the future. Within this general situation, a fundamental growth strategy had been developed. As described by the Director of Business Development, this strategy entailed a two-tiered approach:

Nigel: In essence, we all have to be entrepreneurial...Engineers and systems analysts are not just there to do a job, they're there to get business. The systems analysts get you into the customer's mind and let you get to know his problems...Then, if the project moves into engineering, you're the logical choice. [13 October 1983]

Following this two-tiered approach, it was hoped that a process of self-sufficient growth could be established whereby expanding contracts would support a growing organization. This plan was outlined by one of the managers:

Steve: [Close paraphrase] So eventually, we want analysts, but with no contracts, we can't yet afford them. But, you see, we can't get contracts until we get the people. So, we have to invest in some people with no contracts to support them [and incur a loss.] I think – I hope – the company is taking the view that the way to start is to get a dedicated machine [computer] and some people and then we'll get contracts. [So] I have to establish how much of an investment we need to get the ball rolling. [29 September 1983]

DAE had developed a great deal in three years. A skeleton organization existed; modest contracts had been identified in various market areas; essential strategies had been formed; and an 'entrepreneurial spirit' had been identified as critical. Indeed, a DAE 'corporate identity' was beginning to develop. As a staff manager from the U.K. holding company hierarchy put it,

Those DAE guys are known [by people in corporation] to be kind of cowboys. They live out of suitcases. They come and go. They take a crisis, solve it, and then wait for the next crisis. They appear to not have any system. [pause] I don't know. They're just different. [19 August 1983]

5.2.2 The Parent Company.

The parent company can be considered a typical multinational corporation. The company employs over 100,000 people worldwide and in 1983 revenues were over $4,000m. There are nearly 25,000

people employed outside the United States of whom less than 200 are American citizens. The corporation is divided into organizational units which are called 'businesses' or 'business areas', each contributing roughly $1,000m to the total: Defence and Aerospace Electronics, Control Electronics, Commercial Products, Information Systems, and International Operations (1983 Annual Report). Through these various businesses, the corporation produce and sell goods and services ranging from computers to environmental controls, with customers ranging from private individuals to governments. The corporation's products are extremely sophisticated technologically. This sophistication is particularly evident in electronic design, sensor technology, and automatic control systems.

The corporation's Defence and Aerospace Electronics business is engaged in the production and marketing of technologically sophisticated devices to serve the defence and aerospace industries. Products include goods such as electronic gyroscopes, navigation reference platforms, digital flight controls, electro-optic imaging systems, munitions, and torpedoes. Worldwide, Defence and Aerospace Electronics employ approximately 20,000 people (Company Information Bulletin - 1983). All of the products require a broad technological base and a huge capital outlay to insure that the goods remain competitive in a rapidly developing market and that production runs can be large enough to insure an adequate return on investment. To accomplish these objectives, Defence and Aerospace Electronics is divided into several main units called divisions, such as the Defence Systems Division and the Avionics Systems Division. DAE receives technical and product support from the worldwide Defence and Aerospace Electronics business.

Financially, DAE reports through International Operations. This means a reporting chain through a wholly owned U.K. subsidiary of the parent company to a European directorate and subsequently to International Operations. The formal reporting and planning system is quite extensive. Essentially, there are two cycles during the year. In January, a two year plan and year-end results are submitted at the European directorate and in July, a five year plan and mid-year review are accomplished. Planning meetings are held and formal presentations are made by senior DAE managers to representatives of the parent company.

The coordination required prior to these meetings is extensive. Through transfer pricing, DAE purchases goods and services from the American divisions for ultimate sale in the U.K. market. As local manufacturing and production expand for DAE, the American divisions will continue to supply components and subsystems and provide support in the form of technology transfers and personnel training. Hence, although the financial reporting for DAE seems a straightforward chain through the International Operations hierarchy, much 'behind the scenes' negotiation must be accomplished by DAE managers to ensure that their plans are feasible. In the words of one of the directors, 'They [American divisions] are like our customers in a sense. We have to make certain that our needs are in their plans' (17 November 1983). Consequently, even though corporate planning documents emphasize the two main cycles, planning and reporting for DAE is a nearly continuous process of trips, meetings, negotiations, and re-negotiations to specifiy transfer prices, responsibilities, delivery schedules, and product requirements. DAE managers continually present the unique requirements of their situation in the United Kingdom.

DAE is not the first corporate venture by the parent company into the Britain. In fact, the corporation's history in the United Kingdom is quite long, beginning before World War 2 with marketing activities and expanding into manufacturing soon after the war. Current employment in Britain is approximately 5,000 people at over 20 locations with revenues of several hundred millions of pounds (Director's report 1982). In the United Kingdom, the parent company has been generally associated with commercial goods. DAE was a venture into a new and different market area.

The U.K. holding company is organized in essentially a duplicate image of the parent. The main operational units are business areas (such as DAE) just as in the parent company. The holding company has a fairly large corporate staff and provides the individual businesses with support in such areas as personnel services, accounting, site services, and capital funding. The subsidiary is managed on an executive level by a policy committee consisting of the various business directors and senior staff directors. While this committee is concerned with the financial and legal entity which comprises the U.K. holding company, the individual businesses are relatively autonomous to coordinate with other divisions in the corporation and with their unique customers.

DAE is located organizationally as shown in Figure 5-1.

An organizational complication for DAE must be mentioned. As stated above, the parent company has traded in worldwide markets extensively. Consequently there exists, at any time, a pattern of agents, customers, market relationships, license agreements, and contracts. The importance of this is that any new business venture within the company faces unofficial but critical 'bor-

THE PARENT COMPANY

CONTROL ELECTRONICS | DEFENCE AND AEROSPACE | COMMERCIAL PRODUCTS | INFORMATION SYSTEMS | INTERNATIONAL OPERATIONS

DEFENCE SYSTEMS | AVIONICS SYSTEMS | PRODUCTION OPERATIONS | RESEARCH | STAFF FUNCTIONS

-LAND
-UNDERSEA
-SURFACE

-MILITARY AVIONICS
-COMMERCIAL AVIONICS
-SPACE SYSTEMS

EUROPEAN DIRECTORATE

HOLDING COMPANY

-Extensive Coordination
-Transfer of Goods & Services
-Technical Support

DAE

'Corporate' Support

Formal Planning and Reporting

FIGURE 5-1

ders', which reflect how world markets have been allocated in the past. Simply stated, although a new business may be ostensibly allocated a geographic area (for example, the United Kingdom) and a specific product/customer mix, it soon becomes evident that past practices make the situation far from clear. It would be possible, for example, that the corporation has had a large, long-standing license agreement with a firm that now should be considered a competitor or that a particular 'export' customer which seems best serviced from the United Kingdom, is already within the 'area' of another division. In other words, a venture

business such as DAE does not begin operations in a vacuum. As the world is already divided, the venture's new activity is quite likely to conflict to some degree with another group's old territory. These restrictions, often only vaguely known, are negotiable.

The members of DAE traveled a great deal to coordinate a wide range of activities. DAE managers frequently had rail and airline timetables, multi-lingual phrase guides, and a parent company directory located near their desk (7 October 1983). The directors and senior managers spent as much as 30% of their time abroad. Thus, both formal and informal meetings were a large part of the members' activities. In these meetings, internal coordination, customer relations, marketing, and previous agreements all were topics of importance. A director's description of one meeting was fairly typical and gives a flavour for the type of activity required.

Nigel: We've [DAE] been talking to the ministry on this one [contract] for a year. Well, it looks like it will go into bid. So I went to the States to try to sort it out from our end. There are four, possibly five agencies that need to be coordinated. Commercial Avionics actually make the product, Military Avionics...who put together the guidance packages and nav [navigation] systems. And then there's [named British company who have a license arrangement with the parent company] and us...Who writes the bid? Who does what work? All those details. Plus, will it come to us? or to [the licensee]? If it comes our way, what transfer prices? Transfer prices have been an absolutely fundamental issue with us for 2 years now, actually. [26 January 1984]

5.2.3 The Industry.

DAE's potential products are applicable to land, air, and sea (both above and below the surface) and in each medium, there may be both 'military' and 'civilian' applicatations. Within this general framework, DAE's 'industry' can be divided into two 'parts': aviation and defence. These two aspects of the industry

are similar in several ways and will be discussed together.

The basic unit of transfer in these industries is a 'system'. That is, eventually, some customer must purchase a 'total system' such as a navigation system or a ship stabilization system. Such 'total systems' are built up from 'subsystems' and 'components'. For example, a total aircraft navigation system might include a radar subsystem which can be further broken down into such sub-systems as the antenna control package. 'Total systems' are the realm of very large organizations (such as the parent company) which are called, in this case, 'prime contractors'. DAE is not a prime contractor and would aspire, for the foreseeable future, to become a 'component supplier' or 'subcontractor' to prime con-tractors (including the parent company).

Specific product areas (total systems) that would potentially offer DAE appropriate opportunity for subcontracts might include goods ranging from automatic ship positioning controls, through torpedo silencing analyses, to sonar sensors and navigation sys-tems for aircraft. The tie among these seemingly diverse product lines is technology (10 June 1983). In each area, sophisticated electronics, sensor technology, and automatic controls are brought together and applied to a particular customer's situa-tion. The constituent technologies remain fairly consistent across the various products, but how those technologies are combined results in the unique application. It was hoped that DAE could discover some lucrative subcontracts in this milieu.

It is important to understand the relationship of govern-mental politics to DAE. Simply stated, as an aspiring entrant into 'high technology' commercial operations in the United Kingdom, DAE must work closely with various government's agen-cies. Certainly, it is obvious that the Ministry of Defence

looms large in this picture. DAE aspires to be a defence company. In fact, to be extensively involved in any form of 'high technology' in the United Kingdom almost directly implies an involvement with the MoD. In the United Kingdom, both the electronics and aeronautics industries are dominated by MoD contracts (Pierre 1982) and over 50% of research and development is derived from defence related activity (Ball and Leitenberg 1983). Therefore close ties between DAE and the Ministry of Defence are nearly a foregone conclusion.

DAE's tie to governmental politics is not, however, limited to its explicitly 'defence' business. Commercial aviation in Britain, Europe, and Africa is dominated by 'flag carrier' (nationalized) airlines. Further, the products and technologies in defence and aerospace electronics tend to imply long contracts, large capital investments, high value-added production and, ultimately, a large number of highly skilled jobs. Thus, central governments from all nations tend to be interested in DAE's 'industry' and often they are an active participant through funding, nationalized industries, and, frequently, direct competition.

A final characteristic of the 'industry' must be made clear. Most of the potential operations for DAE demand an extremely long-term view and major financial risk. Many short-term projects are available (such as feasibility studies or initial technical analysis). However, many (if not most) such short-term 'one-off' projects are considered too risky of a base for company development. Costs are difficult to predict, specificiations are often unkown, and funding for such projects is the first to disappear during budget cuts. These 'exploratory' projects often result in a loss for the contractor and are considered 'seed

money' for larger, more stable possibilities. This is the appeal of short-term projects. Some of them will become long-term projects.

Once contracts move into the production phase, they tend to be very large, fairly stable, and quite profitable. Particularly with direct MoD contracts, a large project, including the development and production of a particular system or major sub-system, generally progresses from design, through production, and finally into post-design service (PDS). Projects remaining 'active' in this fashion for 20 years are considered quite normal. Hence, contracts settled in 1980 are potentially 'looking at the year 2000'. Naturally, such business possibilities attract extremely strong competition. Most of the largest firms in the world are interested in this area and since the prize for the winners is so large, companies risk great amounts of capital attempting to secure contracts. Thus, while the prize is valued, the cost of losing is high.

Some examples will serve to give a flavour for the type of situation DAE faces. In these examples, it must be remembered that DAE, though part of a huge American organization, is at the same time, a small, fledgling British organization. As a £5-20m business, DAE would aspire, in the examples below, to become a component supplier, obtain analysis contracts, or perhaps, develop some role in sub-systems contracts.

The first situation discussed here is not unique and really represents a process of negotiation that is continuous among governments. What is perhaps at least slightly unique is that data on this particular case are readily available (Donne 1981). During the first week of September in 1981, the Prime Minister and various cabinet ministers met with the U.S. Secretary of the

Navy and his team of advisors to discuss, ostensibly, a requirement for a heavyweight torpedo for the Royal Navy. The competition involved two designs, one American and one British. On the surface, the negotiations involved a potential contract worth some £550m and approximately 1000 direct jobs. Further, aspects for negotiation would involve 'offset' whereby the American designed torpedo, if it were selected, would be assembled or even partly manufactured in the United Kingdom. This implied British jobs in negotiable specialities and numbers.

It is necessary to point out that in this negotiation, although the multitude of contractors and component suppliers were intensely interested in the outcome, the actual contractual transaction was between the two governments. That is, the products being discussed, in this case torpedoes, were actually the property of the governments. Had the American design been selected for use by the Royal Navy, the American manufacturer would have actually 'sold' products to the American government, who in turn would have 'sold' them to the British government.

The uninitiated might expect these negotiations would have focused on heavyweight torpedoes (including such issues as cost, delivery schedules, and offset levels). In fact, the negotiations quickly expanded to encompass a wide range of potential contracts from both sides of the Atlantic. The list included fighter aircraft, trainer aircraft, airbourne radars, and a range of marketing operations and joint commercial ventures. The government teams engaged in a massive, 'across the board' barter which could have wide ranging and often unpredictable results when viewed from the position of a sub-system or component supplier. It was quite conceivable that such a manufacturer could have been surprised to find that a contract which had been con-

sidered certain and had been included in strategic plans, had been 'traded away' in a seemingly unrelated governmental negotiation. It is, consequently, a fundamental tenet in this industry that one must have extensive, informal contacts to insure reliable knowledge of such potentialities.

This level of unpredictablity is not limited to defence contracts. In commercial avionics, 'the product' consists of navigation systems, air data computers, and post-installation service of both of these types of devices. While the 'customer' is not clearly delineated, it is convenient to begin with the simple view that the customer is an 'end-user'. Even with this simplified view of product and customer, it is still possible to observe rapid, unplanned, and from the point of view of an organization like DAE, potentially disasterous occurrences. For example, a large airline canceled a purchase contract for fifteen Boeing 757 airliners for which it had been committed to pay nearly $600m (Betts 1982). Viewed superficially, one sees only that a customer (the airline) is no longer going to purchase a set of goods from a manufacturer (Boeing). Beneath this seemingly straightforward development however, lies a network of subcontractors and component suppliers who have marketed their products with both the airline and with the airframe manufacturer. They have worked, sometimes for years, with the various aviation authorities to gain certification for their products. The complexity does not stop there. 'The manufacturer' is often a consortium; 'the end-user' can be several firms chained together through transfer agreements; and as in the defence example, because of employment issues, technology transfers, and often direct participation, governments are intimately involved.

The risks and potential payoffs are great. Even a modest

contract for components on fifteen airliners would be a long-term, multi-million pound endeavour. In an organization the size of DAE, such an endeavour is always important. If DAE should suddenly lose an anticiapted five year, £10m contract, it could face disaster. On the other hand, if DAE were successful in obtaining such a contract, the growth objective will have been met.

Thus, when viewed closely, the 'military industrial complex' is not a neat, monolithic arena with clear boundaries. DAE exists in a confusing and shifting network. There is constant, underlying tension between the long-term organizational commitment required to succeed in gaining and fulfilling contracts and the unpredictability of future possibilities.

It is now possible to present DAE's 'industry' in the words of the members themselves.

First, the manager of Defence Systems:

Matt: This is a fuzzy business. The customer is the government so they won't, they can't, tell you what they're thinking. You have to piece it together from intelligence: what you hear from someone who hears something from someone else. [23 June 1983]...Lots of what I do here is based on shifting sand. The vagueness of the market and company policy. Oh, I can strategize and implement, but it's all based on whims, really. [3 August 1983]

A manager in Avionics:

Donald: I spend two or three days a week on the [potential named contract] trying to bias people to our view. That's been going on for three years. [The contract proposal has been] in and out of committees, discussed by MP's and in the ministry. The RFP [request for proposal] should be out in January [29 July 1983]...It's been slipping like hell. Now it's supposed to be out on 1 April. The hold up has been funding approvals...The package went into that committee last week, so, I anticipate the RFP to be issued within 10 days, perhaps a fortnight. [1 March 1984]

Finally a business area manager:

Colin: They always bring up the pipeline [U.S. embargo on pipeline technology]. And it isn't just an American thing. Anytime you move this kind of technology across international

borders these days, it takes ages and sometimes the biggest companies lose out. [21 October 1983]...It's a very incestuous industry. Most of the companies have at one time or another worked with each other in various ways and most people have actually worked in several companies or some government establishments. Everybody knows everybody else. For example, this contract is being bid by two consortia and us. Over the past 15 years, [the parent company has] been involved with all of the competing bidders either through consortia, subcontracts, or licenses. [14 March 1984]

5.2.4 The Acquisition: Staverton Engineering.

The final aspect of setting which must be introduced here is a small, privately held company called Staverton Engineering[1] which the parent company acquired for DAE. A brief introduction to Stavertons is useful. It is instructive not only in direct relationship to DAE, but as a further description of the industry.

In the early 1960's four men met in Bath, England. One of the four had an acquaintence in the Ministry of Defence who had told him of a requirement for a safety and arming mechanism for a missile then in an early stage of design. The four men worked out a basic design from an original idea sketched on the back of a cigarette packette (reported still to be available for viewing at the company). They subsequently presented their idea to the MoD and were awarded a small contract (12 January 1984). Thus with £11 10s working capital, Stavertons began operation (21 February 1984). The initial contract was extended into engineering models and the four original members moved to the present site in Wiltshire approximately 10 miles from Bath and the company began to grow.

The growth over the years was funded through small contracts. Projects included such programmes as a study of tropical storms,

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1. Hereafter, this company will be called simply 'Stavertons'. This reflects the members' usage.

design and production of gravity/time switches, sophisticated slip rings for telemetry operations, and a growing range of special valves for inflatable boats and life jackets. The company gradually attracted more substantial design and production contracts with aerospace firms in the United Kingdom and developed expertise in pyrotechnics and explosives. This latter expertise allowed manufacture of precision explosive bolts and cable cutters which were sold primarily to offshore oil customers. Finally, Stavertons continued and expanded contracts with the MoD in the areas of design, production, and post-design work on torpedoes, safety and arming mechanisms, and sonar equipment (12 January 1984).

During the years 1979-1981, various factors came together which caused severe financial problems for the company. The worldwide recession, weaker than anticipated markets with North Sea oil operators, and various ill-timed expansion moves came together and Stavertons suffered three successive, unprofitable years. To counter the problems, a substantial reorganization took place. The managing directorship changed hands and all facilities away from the Wiltshire site except a small explosives facility were sold or leased. Operations were cut back and the number of employees dropped from over 350 to approximately 250. By 1983 a recovery had begun and the company was modestly profitable again with sales revenue of approximately £5m.

Stavertons is located on a small industrial estate in a quiet farming village in Wiltshire[1], nearly one and a half hours away from London. In 1983, there were four main buildings in various states of repair and of various design. It was apparent from observing the site, that for several years the financial concern

1. The village itself will be referred to only as 'Wiltshire'.

was company survival rather than capital improvement. Indeed, one DAE member went so far as to describe Stavertons as a 'grotty, little, under-invested engineering shop' (21 December 1983). In each of the four buildings, there were machine shops, engineering facilities, production facilities, canteens, stores areas, and offices. Due to the recent cutback of operations, most of the machines were sitting idle and much of the floor-space, though committed to various types of activities, was currently unused.

The company was managed by three directors and a company secretary. All three of the directors were engineers. One had been with the company all of his working life and had progressed from a draughtsman position to the directorship. The other two directors had previous experience in large British Aerospace firms. The company was heavily oriented to engineering.

David [A director]: 70-80% of our revenues stem from our engineering contracts. The ones that the big boys don't want because they are too small and the small boys can't handle because they haven't got the engineering talent. [30 January 1984]

There was little bureaucratic structure involved in the operation. When a contract opportunity became apparent, often by a customer request to one of the directors, an engineer was given the tasks of writing a proposal, creating a team from the various people available within the firm, and then 'simply doing the job'. An excerpt from an interview with one of the Stavertons directors summarizes the company.

Mike: From an engineering point of view, this seems almost like a research facility.

Trevor: Yes indeed. As a matter of fact, I once had a merchant banker tell me that we had lots of the characteristics of a university. But what we've never been good at is marketing. [12 January 1984]

5.3 A BRIEF CHRONICLE.

It is now possible to introduce DAE in greater detail. The objectives of this section are twofold. First, a straight-forward, though detailed, chronological account of the research year will be presented. This is a general presentation of the 'events' which will be analyzed through Models 1 and 2. The second objective is to establish greater familiarity with the members of DAE, their vocabularies, their views, and the emotional tenor of their situation.

It must be stressed at the outset that this section also suffers the weaknesses listed at the head of this chapter by Spradley (1980). It is not and cannot be a complete replication of the year in DAE. Through the process of highlighting certain aspects of the history of the organization, it is possible to imply that the issues of importance to the historian were also seen in the same light by the actors. This was not always the case except in the most abstract sense. The members of DAE were busy people engaged in many activities. Throughout this period, activities such as calling on customers, installing an inventory control system, administrative tasks, development of analyses and post-design service, and the pursuit of contracts continued. After the acquisition of Staverton Engineering, additional activities became necessary. New plans outlining the financial and operational integration of DAE and Stavertons were created and submitted to the parent company. The introduction of the senior management from Stavertons into the worldwide organization of the parent company required time and effort and entailed trips to the United States and Europe and numerous meetings in the United Kingdom. People from both organizations at all levels had to meet each other and begin to develop working relationships.

Finally, a new organizational 'structure' had to be 'designed' which would bring the personnel and physical resources of DAE and Stavertons together in a mutually advantageous manner. That all of these activities were ongoing must be kept in mind as the chronicle is developed.

5.3.1 June-September: A new building and an acquisition.

The DAE Strategic Plan for 1983 codified a fundamental aspiration. The plan called for steady and aggressive growth in both revenue and personnel. The method for accomplishing this aspiration was based on the concept introduced above of self-sustained growth funded through ever expanding contracts and continued reinvestment. Overall, the plan portrayed a future in which DAE which would be a profitable, autonomous business by 1985 with continued growth beyond. This meant that DAE needed more people, more floorspace, and more contracts.

Also in the plan, two specific techniques for accomplishing this growth are listed. Taken out of context, as they are here, these two views may not appear to be mutually exclusive. However, in the events that unfolded, to a large degree, they were. In the Strategic Plan the two techniques were listed thus:

Issue	Strategy	Status
How to increase the chances of growth	Acquire -added technology -necessary for market credibility	Still looking
Facility expansion	Occupy an autonomous facility	On schedule

[Precise duplication of a section of the 1983 Strategic Plan. Prepared: June 1983]

The presentation style of the planning document is confusing, hence a translation into English is required. The first entry

states that to increase chances of growth, DAE should identify
and acquire some established firm in Britain. A 'good' acquisi-
tion could, in one fell swoop, bring DAE all three requirements
for growth: people, floorspace, and contracts. The second
'issue' is even more clouded by the language used in the plan.
It was simply to construct and occupy a new building (S-3 in the
members' vernacular) built especially for DAE. As the planning
excerpt shows, the search for a suitable acquisition was con-
tinuing as was the construction of S-3.

5.3.1.1 The new building: S-3.

During 1982, a contract had been let for the design and
construction of S-3 approximately one mile from the holding
company's headquarters in Berkshire. S-3 was designed to house a
variety of units from several divisions within the company,
including a training centre, a sales office, and various staff
groups. However, DAE was to occupy the largest share, and to a
large degree, S-3 was 'DAE's new building'. DAE was to occupy
7000 square feet of office space and 13,000 square feet of ware-
house/factory area. The new building was to become, in the words
of the managing director:

Bob: the prototype for [the corporation]. We're investing a
   great deal of money in a quality building. [6 June 1983] So
   really, we're trying to lay the foundation - to make sensible
   investments now which will help us in the future. [9 August
   1983]

Construction of S-3 was progressing on schedule and the planned
DAE occupation date of January would apparently be met.

The management and staff were visibly committed to making S-3
a showcase of modern design and equipment. The members were
concerned with all aspects of physical layout, furnishing, build-
ing security, and office technology. A major part of the plans

for S-3 was the application of electronic office technology (including office automation and computer-based data processing systems coupled to form a single 'integrated' information network).

Many 'S-3 committees' were active during these months. First, there was an office automation steering committee which was composed of the managing director, his technical advisor, and representatives from various corporate staffs. This group met periodically to discuss various computer-based information systems and office technology (6 June 1983). Second, S-3 was discussed frequently by all of the managers whenever they met. For example, four senior managers of DAE spent nearly 20 hours together over July and August in meetings where the focus was specifically on S-3 issues (6 July 1983 and 9 August 1983). S-3 was also frequently discussed in most general staff meetings.

Finally, a group of clerical and administrative staff, called the S-3 working group, was formed. This committee included non-management representatives from each of the working locations and discussed all aspects of S-3, including office layout, canteen facilities, availablity of public transportation, and office automation (13 July 1983). The purposes which this group was seen to fulfill were numerous. First, the working group was a forum through which the non-management personnel in DAE were kept informed of S-3 decisions as well as progress on the building. In the words of one manager, it was an 'education process' (21 June 1983). Second, this committee was a method to solicit opinions for the director's consideration. He realized that, though he had frequent contact with the management staff, he needed some specific method to gather input from the non-managment members of the organization (25 July 1983).

Finally, the members of the working group saw their role as monitoring the progress of the new building more closely and more critically than the managers could. One member said:

John: The S-3 working group was originally my idea. They [the managers] are too busy to handle the details of the new building, so to help them out, since so much is popping [right now], we're doing it. [23 July 1983]

Another member said:

Sue: After all, it's our system. We're the ones who have to live with it at the end of the day. [20 June 1983] You know, we just wanted to present the interests of the people who are going to use the system. It's possible for people who won't use the system to come up with these weird, in-the-sky ideas...We have to point them in the right direction. [21 June 1983.]

Members at all levels of DAE were active in monitoring and developing the plans for the new building. If S-3 went 'according to plan', then the organization would move, with approximately 40 people, into a freshly constructed building during the coming January. S-3 would be a mixture of 'open-plan' and private offices; an extensive technical library would be established; new telex machines would be included; and an integrated data processing and office automation system would be installed (13 July 1983). The process of attaining increasingly large contracts with increasing local engineering and value-added would continue. In this way, it was hoped that by 1988 DAE would grow to nearly 150 people and approximately £30m in revenue (1983 Strategic Plan). By that time, the floorspace in S-3 would be fully occupied.

5.3.1.2 The Acquisition: Staverton Engineering.

Another possible technique for growth was the acquisition of an existing British company. As stated above, this possibilty was reflected in the strategic plan. It will be seen that, at first, this view of the future was not as 'publicly' developed as

that of S-3, but it was as actively pursued.

The directors and managers of DAE had been searching the United Kingdom for a suitable acquisition for over a year. They had gone through various search rules, revisions, and re-search. Six months earlier, they had identified a suitable 'target' for acquisition. This target was thoroughly researched and a preliminary presentation was made to the parent company hierarchy, which vetoed DAE's choice for various stated reasons. The target was considered too large, too committed to specifc products which did not fit the overall corporate objectives, and too far removed from certain high-growth areas that the company wanted to pursue. Thus, during the spring of 1983, the management of DAE expanded their search activity with increasing focus on Stavertons. This time, initial corporate board approval was obtained and during June of 1983, the managing director of DAE opened explicit negotiations with Stavertons Engineering (12 January 1984).

From June to September, negotiations with the board of directors at Stavertons and presentations to the parent company became increasingly specific. Naturally, the negotiations were not publicized outside the company. However, quite soon, everyone within DAE was aware that acquisition negotiations were going on and apparently would be successfully completed. It must be remembered that DAE was an organization of 35 people. Within such a small group, it was quite impossible for the acquisition to remain the confidential knowledge of a small group of managers. Further, the managers realized that an acquisition would affect everyone, hence they attempted to keep the organization informed of progress on the negotiations. A director on the DAE negotiation team said:

Nigel: Communication is the most important and certainly one of

the most difficult jobs of management. It takes constant effort. For example, take this acquisition. There are many things that haven't been decided yet. So obviously, I can't tell them [points to outer office]. But, broadly speaking, they know everything that I know. [1 July 1983]

By late July, negotiations with Stavertons had progressed to the extent that a senior manager could announce in a weekly staff meeting,

Matt: [The parent company] has approved the acquisition. Now it's up to [the president] getting out his cheque book. [20 July 83]

The 'fact' that the acquisition of Stavertons was in the future for DAE was shared among all of the organizational actors by the end of July.

Unlike the new building, however, there were no formal committees to discuss the potential impact of the acquisition on the organization, there were no working groups to discuss ideas about the latest plans, and there was little gossip about how the acquisition would affect people's jobs and lives. The situation was typified by a middle-level manager:

Colin: This acquisition thing is really strange. We can't really talk openly about it, but looking at it, it seems possible to me that I might be moved down there. And yet, I can't make any plans or ask any questions because it isn't official yet. [27 June 1983]

A formal 'signing ceremony' was held in Wiltshire on the 30th of September and Staverton Engineering, Ltd., officially became DAE-Staverton, the major organizational component of DAE.

5.3.2 October: no S-3.

In the literature of 'objective' organizational planning, the accomplishment of a goal, such as acquiring Stavertons, is often portrayed as a kind of conclusion. To the members of DAE, it was apparently more of a beginning. In the words of a senior manager,

Matt: Something drastic has happened to us that's going to be really hard to handle. We've actually gotten what we were planning on! [30 September 1983]

The weeks and months that followed the formalization of the acquisition were to turn out to be difficult indeed. The 'future' for DAE had changed. However, the nature of that change was neither abruptly recognized nor fully appreciated. While some of the actors realized immediately that their individual lives would be different because of the acquisition, the details and organizational implications of these changes only gradually came into focus.

Bob [Managing director]: DAE, by Friday [the formal signing ceremony] is already reorganized. It's [two] businesses, [both] different. [First], S-3 and the Avionics Service Centre and [second], Stavertons and everything else...[But] Stavertons isn't the end, it's the beginning. I've got a £213,000 investment in a new, quality building [S-3] which is a necessary focus for contracting. S-3 will have a lot of excess space at first and I'll try to motivate Ted to fill it up. [22 September 1983]

Here, although we can see that a 'beginning' is unequivocally heralded, the details of the process which had begun are only ambiguously implied. Because of this ambiguity, the answer to a fundamental question remains obscure. Will this process centre on Stavertons or S-3? For the 35 people who had come to work at DAE near London, the question was important.

5.3.2.1 Stavertons.

One aspect of the acquisition negotiation was establishing agreement on combining the two companies. It was necessary to develop an understanding of how the new organization might be structured and what areas should be emphasized for the future growth. The issues involved in this agreement were codified in an 'organization chart'. The specific details of that chart are not yet important, however, two aspects must be mentioned.

First, this chart, as originally drawn, was to form the basis for much discussion among the actors over the next six months. The chart implied new roles within the company, new reporting and control procedures, and new inter-unit relationships. For individuals, much personal role and relationship specification was encoded in the chart, while on the organizational level, much of the routine task requirements and foundations for specifying future questions and discussions were made explicit. Therefore, the organization chart, as a presentation of the organization, became an object of continual negotiation and interpretation.

Second, this chart made it instantly clear that six managers previously working in Berkshire would relocate to Wiltshire and assume new duties at Stavertons. For these individuals, turbulence was immediately recognized. One, on the day of the signing, said,

Colin: I'm going to Stavertons! It was fairly sudden. [30 September 1983]

Another, in answer to a question about his future role said:

Edward: I still see a fulcrum of change in the future. What's my new job? Who will I be working with? When will it start? Which company? And on another level: What salary? What grade? Is it a promotion? At this point, I really don't know.

Mike: So what are you doing at the moment?

Edward: Ha! I've become political, introverted. We're in for a tremendous bit of turbulence. I'm just going to try to get through it without getting hurt. [18 October 1983]

Finally, a third said:

Simon: If I had known this [move to Wiltshire] would be a possibility, I wouldn't have taken this job. They certainly didn't let me know about Stavertons when I came in to interview [in May of 1983]. [Paraphrase recorded approximately five minutes later - 7 October 1983]

For nearly four weeks, the coming disruption was, in the main, seen to be isolated around the six people who would definitely be moved to Stavertons. For the rest of the members of

DAE, apparently little had changed. In the words of one of the directors:

Nigel: Basically, there's very little to do on moving people from this end. We can move those six [people] lock, stock, and barrel. Colin and Simon are the only ones with potential problems. Otherwise, everyone stays here, or has dual responsibility between Stavertons and S-3. [30 September 1983]

5.3.2.2 S-3.

As people became more consumed with the tasks related to Stavertons, less effort was spent on S-3. Two conversations recorded during this time describe the situation. The first is from an interview with a senior manager.

Mike: I was hoping to get some closure on S-3 and the computer.

Matt:...Now we're going through the tough negotiations [with Stavertons]. That's exercising Bob [the managing director] and all of us, really, almost entirely. In three weeks time you'll see us focus on S-3 again. [24 August 1983, emphasis added.]

The second was an interview with the administrative supervisor.

Mike: Well S-3 seems to have changed. People aren't talking about it any more and we're getting closer to the move!

John: Well, you have to understand. They have more important things to think about. If the acquisition went wrong, then peoples' [parent company] careers would be hurt. So peoples' interest in S-3 has naturally taken a backseat. Also, we've been doing the plan for 1984. So that's why we have this 'flavour of the week' situation right now. [20 October 1983]

However, though other tasks consumed people's effort, S-3 plans remained essentially unchanged. This is shown by an excerpt from a general staff meeting held on the 13th of October (two weeks after the Staverton acquisition was completed). The topic was the future for DAE with particular emphasis on the 'upcoming' move to S-3.

John [Administrator]: How has the budget for S-3 been affected [by the acquisition]?

Nigel [meeting chairman]: Not at all. It's a different and quite separate account. But maybe I can move on to S-3. It's still planned to be the end of January.

Margaret [clerk]: The end of January? I thought it was the first of January?

Nick [Finance director]: Well, the costs come in on 1 February, but I'm not sure when we actually move in. Incidentally, there'll be some meetings for all employees to discuss S-3.

Nigel:...So the drawings [layout for S-3] are done, but no decisions have been made about materials, carpets, and furniture.

John: I thought we were taking our own furniture?

Margaret: Yes, me too. Will it be offices or open?

John: It's going to be both.

Nigel: [Interrupting] It's only been decided in the past two days. Those with [private] offices will have floor to ceiling walls with full glass fronts. So there's privacy of sound, but no privacy when you have your feet up.

Gareth [Stavertons manager visiting for the day]: Is it likely to be done this way at Stavertons? I mean, are these the kind of office changes we can expect down there?

Nigel: Well, it sets a standard, I suppose. If it's a precedent, I don't know...

Simon [One of the six managers moving to Stavertons]: Do you see us actually going to S-3 and then moving again to Stavertons?

Nigel: It's not planned that way...

Approximately ten minutes later:

Nigel:...On the computer [for S-3], we've decided to get a scientific computer.

Fiona [secretary]: What's a scientific computer?

John: It means you won't get _your_ hands on it!

Nigel: Hold on. The scientific computer is decided. As to office automation, we haven't yet decided. No one has been around to size it or even establish the requirements...

Fiona: So that means that people won't have terminals on their desks?

Nigel: Nobody has decided yet. There is some resistance to tying into the scientific machine for office automation...[13 October 1983]

S-3 was still considered by members to be the showcase of

office technology, the centre of DAE. However, this view was

becoming difficult to sustain. Stavertons had begun installing a

major computer-based inventory control system prior to the acquisition, hence earlier work on the computer decision for S-3 was no longer valid. Most of the people who would relocate to Wiltshire were to have been assigned private offices in S-3, therefore the open plan/closed plan mix was altered. Most of the potential for classified work was now obviously going to be at Wiltshire, which meant that security requirements for S-3 were unknown. Stavertons had shop floors where any future assembly and manufacturing would occur, hence the large shop floor in S-3 would not be necessary. Thus, the meeting chairman's confused and uncertain answers shown above were, from this historical perspective, not surprising. After the meeting, many of the staff attributed his 'non-answers' largely to managerial secrecy. In retrospect, another attribution is possible. The essence of what S-3 meant had changed dramatically, therefore the details no longer fit the total image.

On 21 October the managing director chaired an 'all and only employees' meeting to 'brief everyone on the implications of the Staverton acquisition and the status of S-3.' Accounts of that meeting vary and interpretations of what was said conflict (24 October 1983). One corroborated account is that an employee asked if it made sense for so few people to move into a 20,000 square foot building. Reportedly, the managing director said, 'Come to think of it, no it doesn't make much sense to me either.' Another account states that the managing director had been negotiating within the holding company for some time with a desire to 'pull out of S-3' and the employee meeting was simply his way of announcing his decision. Here, the actual background of and specific exchanges at the meeting are not critical. What is critical is that at the end of this meeting, S-3 was no longer

the centre-piece of DAE. Over the next months, this meeting came
to be referred to as the 'no S-3 meeting'.

5.3.3 November-December: An official, arbitrary closure.

That the situation had changed was now clear, but this under-
standing does not imply that the actors shared a more general
clarity. A director, in the week following the 'no S-3 meeting'
said,

Nigel: So the current plan is to move everything down to
   [Wiltshire] except Avionics which will go somewhere or the
   other. I don't know where yet...How we will move people around
   is still very much up in the air. No final decision has been
   made, but I think the reality is that we won't move into S-
   3...In the past, we thought of [S-3] as our future, but it
   wears thin. [pause] We have no plan, really, to fill it.
   [pause] You're scaping the excuses barrel. [25 October 1983]

By the beginning of November the old view of the future had been
shattered and a new view was yet to be constructed. Answers to
basic questions such as who would do what and where, were no
longer available. During the coming months, the members of DAE
worked to find answers. In this search, DAE faced many 'vicious
circles'.

Edward: It's a vicious circle, really. The budgets can't be
   drawn up until the contracts are actually placed in a business
   area. But that negotiating, drawing the lines between business
   areas was still going on while the budgets had to be drawn. [9
   November 1983]

There were many other vicious circles. The managers of DAE
and Stavertons had to come to know and trust one another, so they
could openly discuss company strengths and weaknesses and 'real'
contracts as opposed to 'possibles'. Yet they couldn't come to
trust one another until they had discussed these things openly.
Deciding the long-term direction for DAE required an understand-
ing of the corporate 'ground rules', which could not be specified
until some concept of possible long-term direction was formed.

In general, a view of the future was required to understand what was important in the present, but understanding the present was necessary to know what was possible in the future.

5.3.3.1 Stavertons.

As stated earlier, an organization chart was circulating during this time, the details of which were the subject of many negotiations. The chart changed quickly and often. At least six versions were talked about by DAE managers between the end of September and the beginning of December. Throughout this period, though details changed, the fundamental thrust of the chart remained quite consistent. Avionics, separated from the explicitly defence related activities, was to be functionally organized. (Basically this group was divided between marketing and repair.) The defence activities were to be organized in a 'matrix structure' with 'business area managers' holding project responsibility across the functional lines of production and engineering. These business areas were meant to be fairly autonomous organizational units which would be the focus of specific product and market combinations. The concept of business areas remained at the core of the organization chart and the eventual division was among six 'businesses': Commercial Products, Naval Systems, Communication Systems, Munitions Subsystems, Pyrotechnics, and Computer Analysis. Initially, all of these business areas were to be located in Wiltshire except the computer analysis group which was to stay in Berkshire.

The managing director summarized the underlying philosophy embodied in this organizational scheme:

Bob: The objectives can be simply stated. Production - efficiency; Engineering - more effective design; The Business Area Managers - gain growth. Then profit and loss will be

divided up by the accountants among the business areas. [1 December 1983]

The delineation of business areas was important for several reasons. First, the business areas would become the focus for the future development of product and customer. The role was designed to place a technically knowledgeable manager in a position to monitor design and manufacturing problems and remain in direct and flexible contact with a set of customers. The object was to develop a long-term rapport with customers while relying on technical and business acumen to insure profitablility. As shown previously, much of the contract potential in this industry is learned by word of mouth or piecing together disjointed evidence. In this way, the business area managers were potentially the organizational confluence necessary for accomplishing the DAE strategic purpose. Second, the ability to specify the number and name of business areas implied an understanding of company capacity and potential. Hence, it could be argued that until the delineation among business areas was agreed, there was little understanding or consensus of what DAE was about. Finally, in the parent company planning and reporting system, business areas are a widely used format. Once the business areas were formulated, then the accounts structure could be reoriented and creating formal reports would become much more straightforward. For all of these reasons, the business areas were an organizationally important topic of discussion.

Several attempts to specify 'integrated business plans' were made during November. The planning director scheduled the first meeting for 16 November during which the (by this time still unfirmly bounded) business area managers would present plans that could then be integrated into an overall DAE plan for upward

submission. Given that objective, this meeting was a disaster.

No overall planning document was produced and only one business

area manager even attempted to submit an individual plan. This

outcome was probably predictable. At that time, the managers

were unsure of their organiz.tion, roles, and goals, as well as

unfamiliar with the processes by which the others developed such

things as plans. The meeting, however, could be viewed with

another objective in mind.

An interview with the planning director on the day following

the meeting, produced this exchange.

Mike: I think you tricked me. I had thought that the purpose of
    yesterday's meeting was to produce the business plan. Now,
    from what you say, I think it was really simply to get people
    talking about the issues.

Nigel: Yes, I suppose I tricked a lot of people. Not least,
    myself. My original purpose was to do just that, but I real-
    ized over the last week or so that it simply wouldn't happen.
    [17 November 1983]

A second meeting was held over a two-day period in a resort

hotel in Bournemouth. Some 33 managers from DAE and Stavertons

attended what was called a 'Strategic Planning Meeting'. During

this meeting, presentations were made to the group about the

parent company, DAE, and Stavertons, and future business possi-

bilities, goals, and purposes were discussed. Although the meet-

ing was labeled 'Stategic Planning', after the experience from

the previous 'planning' meeting, the objectives stated by the

planning director were quite modest.

Nigel: I hope we get, first, some agreement on objectives.
    Second, people will understand better what their markets and
    businesses are, and third, perhaps some broad strategy issues
    will be agreed upon. [17 November 1983]

Given these more limited objectives, the Bournemouth meeting

appears to have been at least mildly, successful. Again, no

agreed upon planning document was produced, but a general con-

sensus was captured by the financial director's comment.

Nick: I think the management of DAE and Stavertons got to know each other and I think it started people thinking about strategic planning. It was, to be sure, a very preliminary exercise. [25 November 1983]

Consequently the 'plan' which was submitted to the formal reporting and planning system in November was not a complete business plan, but a fairly simple budget for the next year. This budget was presented by the managing director to the parent company staff in Europe and appeared to satisfy the European directorate.

5.3.3.2 S-3.

S-3 was actually two separate buildings (A and B) connected at a reception area. DAE was to have occupied the entire A module of S-3 and thus, in effect, a separate building. Since the 'no S-3 meeting', it was apparent that this would not happen. None the less, DAE still required approximately 8,000 square feet of floor space near the Berkshire site for offices, computer facilities, and the avionics service centre. Thus, although S-3 as a 'separate' building was no longer part of DAE's future, S-3 in an architectural sense was still a conveniently located, unfinished (hence malleable) building which would be ready for occupancy at approximately the right time to satisfy DAE's requirements.

For several weeks after the 'No S-3 meeting', the members of DAE knew that some of the organization would remain in Berkshire, but nobody knew precisely where. Gradually, S-3 came back into discussions. By the middle of November, common speculation among most members was that Computer Analysis and the Commercial Avionics Service Centre would probably move into some part of S-3. The managing director states this opinion:

Bob: S-3, the A building is gone. It's a dead issue. We'll
    take some part of the B building sometime during the first part
    of next year...Stavertons will be the headquarters of DAE. [1
    December 1983]

Thus, S-3 was no longer the centre of DAE and the show-piece for

the company. It was now only a building.

5.3.3.3 Closure at the Year End.

   On December 21, 1983, the members of DAE in Berkshire staged

a Christmas party. On the programme, designed by several of the

administrative staff, was the following heading:

                Defence and Aerospace Electronics
                        Christmas lunch
                        (The last supper)

Though theologically inaccurate, this heading was precise in

relation to DAE. During December, the formal announcement was

made, legally specifying the creation of a new and 'reconsti-

tuted' organization. Both DAE and Stavertons, as referenced

thusfar, legally ceased to be.

   On a less formal level, although the situation was far from

clear, the members of DAE found the future unfolding none the

less. This can be seen clearly in their words:

Mike: What is your future with DAE?

Fiona [secretary]: As far as I know, Nigel is going to
    Stavertons, so that would mean that I'd work for Ted when he
    moves in here. So I talked to him [Ted] assuming that Nigel
    was going. Then Nigel suddenly acts like he's not going to
    Stavertons. So, I don't know anymore.

Mike: Any ideas where you might be when I come looking for you in
    January?

Fiona: Here, for the foreseeable future. I can't imagine that
    Ted still thinks it would be useful to move into S-3. [22
    November 1983]

And in another conversation:

Mike: Basically, I'd like to tidy up some loose ends before
    Christmas, so I'd like to hear about your future with DAE. I
    suppose we could start with 'where'?

Sue [technical assistant]: Ah. Right. [pause, smile] I _think_ I'll be at S-3. I'll continue to work for Matt at any rate. So where he goes, I go. Doing what? That's anybody's guess. I think that Matt doesn't even know what he'll be doing...I could have come unstuck! [My old section] going away was, I think I told you, disheartening to me and I know it was to Matt as well. So, now [our old section] has disappeared and it's only Matt and me...If you've got faith in the company and you know that it'll get better, then you just hang on. Bob [managing director] was good enough to explain it to me personally...Things are uncertain, but if you know in your heart of hearts that things will get better, then you can get over it even when you're pig-sick of it. [25 November 1983]

5.3.4 January-May: Learning, changing, and working the system.

Beginning in January, the actors' focus was clearly directed toward creating the relationships, routines, and activites which would be the new organization. The general tenor of this period is described by one of the newly relocated business area managers:

Colin: I'm a business area manager, whatever that means. I think it means different things to different people. John and Gareth seem to think that it means doing whatever they were doing before. So, one of my problems is that I have to learn what they did before. I have to learn the system at Stavertons... But then they think, 'Right, [the corporation] will come in and set everything right.' So they all have these expectations of what Edward or I will do. If you're really new to a company, they realize that you don't even know where the loo is for the first fortnight. They give you some time to learn. Here, they're saying things like, 'Right, where's Edward's new business system?' or 'Where's Colin's new contracts?' Plus it was the New Year. I mean, there's nothing special about December 31st, but people seem to have a feeling of newness. It all contributes to this view that Edward and I can work miracles...And on top of it all, I still have these pending contracts to work. [19 January 1984]

The situation this manager described was generally representative of all of DAE. New modes of operation were to be developed while previous projects required attention and new opportunities had to be actively pursued.

5.3.4.1 Stavertons.

During these months, most of the effort was directed towards Stavertons. DAE had acquired a company with nearly eight times

as many employees and this new company was to become the head-

quarters. The effort to combine these two organizations was led

by the managing director who established an office in Wiltshire:

Bob: So what it boils down to is that I plan to spend most of my
     time down here over the next six months. Every functional area
     needs attention...We started the process at Bournemouth.
     Stavertons tended to think on a one year basis. Short-term,
     because they didn't have any financial backing. Therefore, I
     need to develop a long-term strategic planning view. Right
     now, there's a lot of philosophy, but not much we can use.
     [pause] I'm not being critical, but I see a lot of rain dances.
     Of course, it's a lot easier for me to shake my fist than it is
     for them to do their tricks. That's why I shut down their
     offices back [in Berkshire]. If I didn't, they'd sneak back up
     there. I recognize that there's a general insecurity. My
     presence helps that a little, but I want them to beat their
     chest as much as I beat mine...If I can set the scene to give
     people confidence, they'll drag this organization into change.
     [10 January 1984]

     The managing director also stated a basic theme which was

repeated by many actors during the next three months.

Bob:...We have to say what this company is. If you ask me what
     my company will be identified with, I couldn't answer you
     now...I will succeed, in my view, when we are identified with
     something, when that question is answerable...And not just by
     me, but by a broad college of observers in the industry.

Mike: Do you think that potential identity is lying around out
     there? [gestures towards the factory floor]

Bob: Yes, the potential is there. I don't think it's necessarily
     where people are looking. But it's there. I really beleive
     that. I have to believe that! [laughs] [10 January 1984]

     Recognizing that the people who had relocated to Wiltshire

were suffering domestic disarray is important to understanding

the situation. Each had previously established a domestic rou-

tine (including home ownership) around a job located in Berkshire

near London. Driving to or from the new site required approxi-

mately one and a half hours and many commuted daily. Several

moved into rented accommodations near Stavertons and commuted at

the weekend. By May, though several were looking for houses in

Wiltshire, none had actually purchased a home. In one sense,

though the people had moved to their 'permanent office home',

there was still an air of temporariness about their situation.

During these months, many specific 'problem areas' occupied the members of DAE. A brief, representative list can be offered.

A. Rationalization of floor space: Stavertons was spread rather indiscriminately over four buildings. The problem of space allocation was exacerbated by the managers who had moved from Berkshire. Offices were made available for these members by hastily 'doubling up'. A rationalization plan was being developed and would require major effort, including interior reconstruction of most buildings. Cost was estimated at £100,000 (12 January 1984). Work began in March.

B. Policy and procedure issues: Terms and conditions of employment (holidays, wage scales, evaluation schemes, and career opportunities) were not the same in DAE and Stavertons. Also, administrative procedures such as travel policy, approval authority, and expense reimbursement procedures were different. Two initiatives were taken in this area. First, a fulltime administrative manager was appointed to create a new policy and procedures manual. Second, a job evaluation committee was formed to rationalize the terms of employment. The administrative outputs of these efforts were to be available by the summer of 1984 (28 March 1984). In the meantime, administrative decisions remained largely ad hoc.

C. Accounting and reporting systems: As outlined previously, the parent company required extremely rapid accounting reports formatted around 'businesses'. The Stavertons system was almost completly manual, organized around specific contracts, and, as it was developed in a small, slightly financed firm, it was oriented 'to insure we can meet next month's payroll' (21 February 1984). Reconciling all of these factors was a large and time-consuming

task which implied changes in coding, recording, accumulating, and reporting data and the introduction of a microcomputer equipped with a 'spreadsheet package'. Overall, accounting required the design and implementation of a new underlying concept of reporting and control, a new system of coding, and a new technology.

D. Relations with the parent company: To take full advantage of the the worldwide organization, the members needed to become aware of what was possible within the larger corporate view. When dealing with such a large and diverse parent, this is not a simple task. This process was begun, but by no means completed. On another level, there were more formal issues in parent company relations which, due to the venture nature of DAE, were still unknown. Questions about transfer pricing, responsibilities in joint operations, technology transfers, and criterion by which potential contracts would be judged were frequently questions which had never been asked before.

E. Developing a 'worldwide' view: Finally, on perhaps the most abstract level, the point of view of the people who had been employed at Stavertons was expected to change. Previously, they had worked at a 250 person, privately held firm. Now, they had strong ties to a $4,000m international business. While legally this shift had been rather abrupt, conceptually, it was far from instantaneous. In the words of one of the Stavertons managers, 'It comes down to this. We've been used to thinking in terms of dozens or hundreds. To think in terms of 10,000's is a step function.' (12 January 1984)

All of these activities were complex, time consuming, and challenging. In the language of the members, there were few established 'terms of reference' by which they could guide their

actions. Thus, much individual effort was directed toward constructing these references. To exemplify the process, one group can be traced through the development of, at least vague, 'terms of reference': the business area managers.

Early in this period, in answer to the question, 'What is the role of the business area manager?' the following answers were recorded:

David [Director to whom the business area managers report]: Christ knows, I suppose, but I don't! [30 January 1984]

Gareth [Business area manager]: Well, the simple answer, I suppose, is to take the charter of the company - to grow a DAE business - and say that my area in that is naval business. That doesn't tell you much. [30 January 1984]

Edward [General Business Manager]: Now, I have five bosses, no one working for me. [pause] Office boy. Doing what other people don't want to do. [pause] No direction. [2 February 1984]

Colin [Business area manager]: This has been a confusing week. I don't know. [pause] I just don't have a clue what a business area manager is supposed to do and I don't think anyone else knows either. There are lots of interpretations - project officer, grand strategist, office manager, administrative officer, salesman. [3 February 1984]

Ronald [Contracts manager/Company Secretary]: As I've already said, I don't understand the role of these people. They seem to be salesmen to me, but at Bournemouth, they protested strongly that they weren't salesmen. [21 February 1984]

Roger [Director of Engineering]: This must be a [parent company] requirement. [22 February 1984]

Several months later, some clarity was evident. At a meeting of the DAE management board in late March, the business area managers presented projects, activities, and contract potentials. There was an air of optimism and confidence that had not been present only a few months before.

Edward: That briefing was, I think, something that couldn't have been done three months ago. In a sense, it took that briefing to force us to see all the progress we've made...We [DAE] had just sold them [the parent company hierarchy] on a plan for £18m within three years. In a sense, we're sandbagging.

Hopefully, if the order book holds, we should have £20m next year. [26 March 1984]

Gareth: We could grow it [DAE] twice as fast, but that's not down on paper. [26 March 1984]

Colin: Realistically, I can see that in three years my area will be £10m. It's far too early in the game for me to worry about that very seriously, but the whole company only did £5m last year! [14 March 1984]

The change in tone over these two months is striking. It is notable that during these months, no actual contracts had been signed. The apparent difference between January and March was that success seemed more likely.

5.3.4.2 S-3?

After January, there were two units of DAE which were to remain in Berkshire and begin a major expansion programme there: Avionics and the Computer Analysis Group. In both, a recruitment programme had begun and new members were being rapidly added. These new members were located 'temporarily' in the office areas which were vacated by people who had moved to Wiltshire. At this time, it was generally agreed among the members that, as soon as construction and furnishing of some adequate sections of S-3 were complete, these two units would move into 'permanant' facilities there.

On March 19, 1984, the Computer Analysis Group, which con-sisted of five 'old DAEers', three newly hired analysts, and the newly received 'scientific' computer, moved into new and very comfortably furnished offices in S-3. The Avionics group was discussing plans for office and workshop areas in S-3 which could be occupied by June. Thus, by May, approximately fifteen DAE members were still in 'temporary' locations in Berkshire.

S-3 was now discussed in terms which were quite different than those of the previous June. By this time, most members of

DAE were engrossed in other things and did not discuss S-3 at all. To a large degree, the only members who still talked about about 'the new building' were those who assumed they would eventually be located there. This was a fairly small group. Simply stated, for DAE S-3 was no longer considered of general importance.

The following conversations serve to illustrate how the view of S-3 had changed. All of these people occupied positions which would presumably remain in Berkshire. Therefore, they assumed they would eventually be located in S-3.

First, a senior manager:

Mike: It seems to me that back in the summer, a lot of people were doing a lot of work on S-3 and computers. Was that all a waste of time?

Matt: I don't share your view that a lot of work was done. We went to Leicester [to talk about computers] for a day. Big deal. We didn't analyze any problems or anything. Bob [the managing director] was excited about computers, so other people ran around and showed that they could be interested in computers as well...Decisions are made for the situation as it is. Then, it was S-3 and office automation. Now the situation's changed and that decision isn't right...Really, it all affects me very little. [6 March 1984]

Then an administrator:

John: [We just got some disasterous news about S-3.] Sean told us that he just heard we're moving into a mezzanine floor that has the ceilings at 5'9" and no windows...You'll probably see adverts for hiring all the blind dwarfs in the country to work here. Of course, who knows? I was looking at scheme number 15 last week and Sean says they're on number 18 today. [8 February 1984]...S-3 was going to be the centre of DAE. It was really going to be DAE. Now we're being shoved into a loft. DAE has gone to Wiltshire. All the team players are down there and those of us that were left behind are secondary. The attitudes around here reinforce that.

Mike: In what way?

John: We're moving into a bloody loft in a warehouse! [6 March 1984]

Finally, the finacial director:

Mike: I'm thinking back to last summer, that trip to Leicester to discuss computer systems. We were certainly talking about

things more grand than two [microcomputers] for the accounts
department.

Nick: Going back to last August, S-3 was going to be a trial
[for] office automation. The Leicester meeting was to set all
that up. In terms of what I know now, what we talked about
then must have been at a very tentative stage...I think that
meeting was related, really, to the S-3 concept...All I'm
saying is that the concept of office automation, the idea of
terminals all around and the all-singing, all-dancing system –
really anything more than spread sheets – was a bit advanced.
Certainly, the concept was in advance of the business...There
used to be a concept with no problem. Now we have a big
problem, with no concept. [15 February 1984]
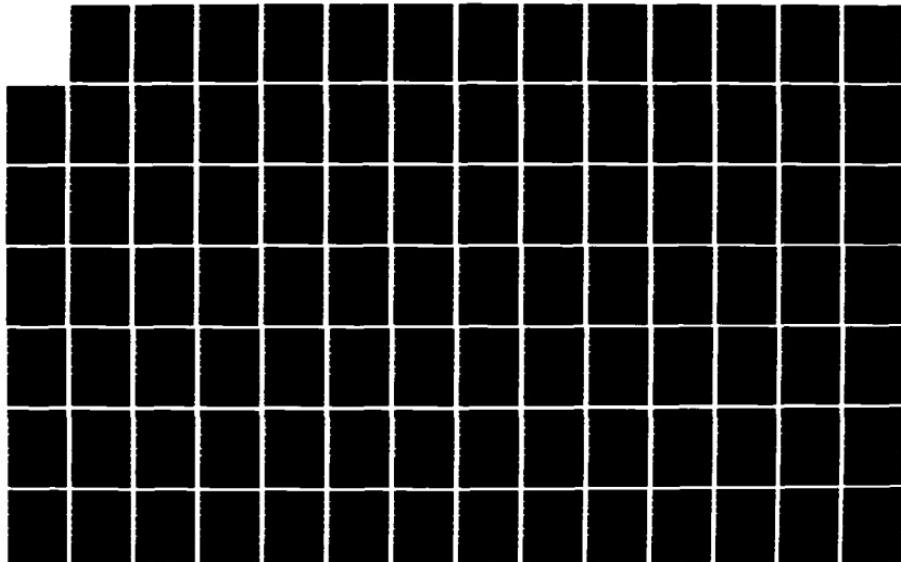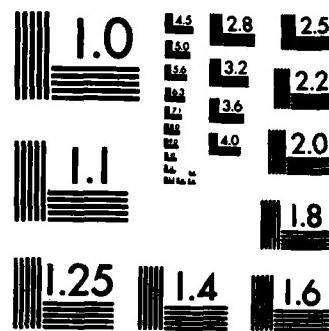
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

CHAPTER 6

GROWING THE BUSINESS: MODEL 1 ANALYSIS

Strategic Purpose: Grow a profitable business and provide a
point of entry for DAE products, technology, and services to
the U.K. market.

(DAE Business Plan, June 1983)

So our objective is to build a major business within ten
years...So really, we're trying to lay the foundation – to
make sensible investments now which will help us in the
future. We're spending a lot on a new building and we'd like
᠆o do the same with office automation and data processing.

(DAE, Managing Director, 9 August 1983)

6.1 INTRODUCTION.

In this chapter, we will apply the logic of Model 1 to an

analysis of DAE, with particular emphasis on the new building, S-

3. As shown in the previous chapter, S-3 was an important set of

activities, a codification of plans, and ultimately a 'non-event'

in the 'growing of a profitable business'. The transition of S-

3 plans will be analyzed using Model 1 and explanations of the

eventual abandonment of S-3 will be offered. Through presenting

theoretical analyses of the transition of S-3, a more widely

descriptive picture of DAE will become apparent.

Two versions of Model 1 analysis will be pursued. In each

version, the assumed 'output' of DAE will be varied in an effort

to illuminate different aspects of the organization. Specifical-

ly, a first analysis will be focused on the 'economic outputs' of

the organization. That is, DAE will be analyzed as an organiza-

tion which engaged in the production of goods and services to

attain profit. It will be shown that this analysis, alone, is

inadequate for exploring the nature of the organization. DAE was a venture business and much of its activity was rapidly changing and ill-defined. As a unit of economic output, DAE was not coherent during the period researched; its activities, products, markets, and customers were not yet specified. Hence, a reformulation of Model 1 analysis is fruitful and DAE shall be analysed more 'symbolically' as an organization whose 'required output' was 'convincing evidence of future viability'. In both analyses, explanation relies primarily on organizational control derived from exchange of critical resources which leads to a dominant coalition and a managerial hierarchy.

The conceptual framework delineated by Model 1 is easily applied to the organizational situation of DAE. This is not surprising since Thompson dealt specifically with organizations of this 'type'. However, though the application seems, at first glance, straightforward, the discipline laid down by Model 1 must be followed with rigour to insure a full exploration of the data as well as a full and self-critical exploration of the model in application.

Prior to any Model 1 analysis, it is necessary to confirm that the model, by its own stated logic, is applicable. Thompson was quite specific in listing the conditions required before he considered his stereotypes applicable. Thus, it is necessary to confirm that the organization under examination is, in fact, a 'complex instrumental organization in a modern society'. If this confirmation is not possible, then the invocation of the simplifying stereotypes, assumptions, and presuppositions is not possible within the logic of the model. A brief introductory examination of DAE is, therefore, required.

That DAE 'exists' in a 'modern' society needs little con-

firmation. The United Kingdom is a society composed of multiple economic organizations with an extensive private sector where 'norms of rationality' appear to apply. In fact, much of Model 1, as codified by Thompson, derives from research carried out in the United Kingdom (e.g., Woodward 1965, Trist and Bamforth 1951). The members of DAE were all socialized and educated in this society and thus can be expected (if anyone can) to be 'people oriented towards life in complex organizations'.

The other requirements prior to invoking Model 1 are not so easily satisfied. It is not instantly clear that DAE can be considered a coherent, delimitable, complex organization in its own right. Drawing conceptual boundaries is notoriously difficult and arbitrary in organization theory. Thus, some effort is required to establish that DAE is properly analyzed as a complex organization. This question cannot be lightly dismissed for two reasons. First, DAE was a very small group of people, numbering at the start of the research only 35. Second, it was formally a suborganization of a huge, multinational company and thus its status as an 'independent' organization is questionable. Each of these aspects will be dealt with in turn.

The first question reflects the relationship of size and complexity. Is DAE – a very small group of people – complex? If it is not, then according to Model 1, the more traditional 'single man' or 'rational structure' models of organization are applicable (Thompson 1967, p 132). Thompson is, however, quite explicit that size alone is not a useful indicator of organizational complexity (p 74). Rather, organizational complexity derives from uncertainty which the organization faces in its environment and due to its technologies. In this sense, DAE certainly qualifies as complex. As shown in the previous chap-

ter, DAE faces a politically charged and changeable set of markets where customers, potential customers, competitors, and consortium partners vary rapidly in ways that are difficult to predict. The 'environment' in which the organization deals is heterogeneous and shifting[1]. DAE is also complex technologically. Below, this complexity will be explored more fully, however, here it is necessary to confirm that DAE's technologies are sources of uncertainty on two levels. First, the actual transfer and production of goods and the successful completion of services in this 'high technology' industry is complex in itself. Many contracts call for new product development or service and support activity unlike anything that has been accomplished in the past. Even for established and relatively 'stable' firms in this industry, the technology is a source of uncertainty. DAE was neither established nor stable, hence this complexity was even greater. Overall then, though very small, DAE is rightly considered complex by Model 1 standards.

But is DAE an organization? This is not a capricious question. DAE was, throughout the research, legally under the 'control' of a United Kingdom holding company, a European directorate, and, ultimately, an American parent company. Thus, though DAE was a unique collection of people and the members expressed a 'corporate' identity, the organization may be so constrained by 'higher headquarters' as to be not reasonably analysed under Model 1. It must be confirmed that DAE, though a subsidiary of a larger organization is an organization in its own right. This confirmation of 'independence' is based on three

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1. This logic could be reversed of course. That is, it is just as reasonable to state that because the environment is complex, we label it heterogeneous and shifting. However, Model 1 does not directly explore this level of possibility.

factors: first, DAE's status as a profit centre; second, the relationship of DAE managers to the rest of the managerial hierarchy; and third, the possibility for organizational failure.

The first factor, DAE's status as a profit centre, is most easily confirmed from the data. DAE is an accounting entity which accrues costs and generates revenue in its own 'market place'. Profit centres are widely acclaimed as a method of decentralization which allows a large organization to be subdivided into relatively independent organizations coordinated through market forces internal to the larger organization (Anthony, et al. 1972, Ackoff 1981). This, by itself, is a weak claim to organizational status due to the arbitrary nature of profit centres; this type of accounting entity could be created without necessarily indicating any 'organizational independence'. The 'profit' which profit centres generate is not the direct product of 'market forces', but rather the result of negotiated transfer prices. Such negotiated transfer prices can be manipulated to accomplish many organizational or 'political' outcomes at various levels.

Therefore, profit centre status alone does not suffice to demonstrate that DAE is rightly considered an organization. More detail of its relationships to the rest of the organization is necessary to show that it was, in fact, an independent organizational entity as well as an independent accounting entity. This detail is also easily demonstrated from the data.

The relationship of senior managers of DAE to the overall parent company hierarchy was not directly supervisory, but rather characterized by negotiation, request, and justification. Through the many meetings (both regularly scheduled and 'ad hoc') the senior managers coordinated a complex of activities with very

little specific guidance. In DAE's case, the 'independence' implied by profit centre status is supported by demonstrably 'decentralized control' from the higher headquarters. The relationship of DAE to the parent company was akin to an organizational relationship with customers, suppliers, merchant bankers, and government. Direction was very general and quite flexible.

One specific illustration of this relationship will be followed in greater detail below, but is best introduced here. The parent company, for a variety of possible reasons, issued a policy restriction which 'forbade' DAE to deal directly with defence customers outside of Britain. This 'restriction' was stated as a straightforward prohibition of such business. However, this 'rule' was not firm, as explained by the managing director:

> Bob: At the end of the day, I think it comes down to, 'How good is the business proposition?' These [policies] exist to keep managers from making foolhardy mistakes...The main objective [for DAE] is building business with the U.K. government. So what I'm faced with is a policy that a lot of people [in DAE] have to take as black and white. I don't. It's a rule which forces us to look first at concentrating on developing the U.K. market, even if it is harder than selling to [other markets.] If I pursue [non-U.K. projects] too much, then the other people in DAE will come to think that this policy isn't real and they won't concentrate as much on the U.K. market...So, I have to make sure that when I decide to go agaist the policy, that it's the right thing to do. Otherwise, I'll let the other people lose sight of the main business objective. [1 Dec 83]

By the following March, DAE was actively pursuing two major defence projects outside the British market, though final corporate approval had not been received.

From this and other examples, it is clear that the parent company's relationship with DAE was not strictly supervisory. Certainly, there were constraints placed on DAE by membership in the larger company, however, most such constraints were considered negotiable at some level. DAE was expected to and did behave

independently and without specific 'black and white' direction from the parent.

The final and strongest argument for DAE's status as an 'independent organization' is precisely impossible to confirm from the data. This argument is based on the proposition that DAE had the ability to 'fail' and subsequently cease to exist. This assumption was frequently articulated by the members, but cannot be confirmed from the data because DAE did not actually fail. Again, though DAE clearly exists in a capitalist economy where profit is required, at another level, it exists in the more socialist economy of the parent company organization. Throughout the research, DAE never made a positive profit from its own operations and was subsidized by the parent company. It was widely assumed that this was a temporary situation and that ultimately DAE would have to become profitable to continue to exist. Certainly, however, it is possible to imagine situations in which DAE operations could continue to be unprofitable in an accounting sense and yet contribute to the overall 'profitablity' of the parent firm. This could be possible because of transfer price manipulations, expanded outlets for goods and sevices, or tax structures. Simply, it is conceivable that DAE could not 'fail'. No data was gathered to examine such possiblities and in the absence of such data, it will be assumed that DAE, in fact, faced the independent organizational possibility of failure. Certainly the actors believed this was the case.

DAE is for all of these reasons rightly (though not unprob-lematically) considered a complex organization under Model 1's assumptions. It is therefore appropriate to to continue Model 1 analysis. We now turn to DAE, assuming that there will be iden-tifiable task environments and technologies which specify DAE's

required instrumentality (norms of rationality). Within this framework and applying the Model 1 constructs, we will seek to identify critical resource dependencies, dominant coalitions, and the resultant control hierarchy. In response to pressures from the norms of rationality, this hierarchy will have initiated plans for S-3, caused the transition of those plans, and ultimately, caused those plans to be abandoned.

6.2 A FIRST ANALYSIS: TO GROW A PROFITABLE BUSINESS.

For all its complexity, DAE was just a profit-making company and, in this, was not particularly unique. It is reasonable to begin analysis by emphasizing this characteristic of DAE, focusing on an economic/productive viewpoint. In this section, the thematic stress will be on the latter words of the strategic purpose statement. (That is, the emphasis is on profitable business rather than growth.) This viewpoint is neither the only viewpoint one can take nor even, necessarily, the most fruitful. It is only a convenient beginning.

We begin this analysis by assuming that a managerial hierarchy must 'control' the organization in such a way as to insure that DAE fulfills requirements established by economic norms of rationality. DAE, which by Model 1 is a transformation process, exists to produce 'outputs' that can be sold at a profit. In this case, the most basic norms of rationality by which the organization was judged are assumed to be efficiency and effectiveness, present profitablity, and economic growth potential. DAE would engage in self-sufficient growth by attaining modest, profitable exchanges and reinvesting profits into further personnel, plant and equipment, and operations. This viewpoint allows a specification of 'outputs', 'technologies', and 'task environ-

ments' which are the analytic building blocks of Model 1.

6.2.1 Outputs, Technologies, and Task Environments.

DAE can be conceptually divided into two major groups. Here these divisions will be labelled 'Avionics' and 'Defence Division'. These labels do not precisely reflect the formal organizational structure of DAE nor are they the exact labels used by the members themselves. The organizational structure, as reflected in job titles, organization charts, and physical lay-out, was in a state of continual flux with specific labels and precise areas of responsibility changing frequently. The members used labels which reflected potential markets, functions, and products over the various presentations of the organizational structure. However, throughout the year, a basic delineation between Avionics and Defence Division was present. The requirement for this analytic distinction will become clear below. The relative size (actual and planned) of each aspect of DAE is shown in Table 6-1.

TABLE 6-1				
	1983		1988-planned	
	Revenue	No. of people	Revenue	No. of people
Avionics	£2.2m	13	£12m	22
Defence Division	£150,000	12	£10m	78

Notes:
1. All data are from DAE planning and reporting documents. This does not include data from the acquisition which subsequently affected Defence Division.
2. 'Avionics' includes both commercial and military customers. Military avionics is strictly a field sales operation dealing in American produced goods. As such it generates large amounts of revenue with few people (1 or 2 salesmen).
3. 'Defence Division' includes the plans for 'defence electronics' and 'underseas'. Independent assembly and production was the main goal for this division, hence it was planned to be much more labour intensive than Avionics.

The 'outputs' of each division can be introduced along with the technologies to be employed:

Avionics   Outputs: 1. Sales of electronic hardware.
                        2. Maintenance of installed electronic hardware.

              Technologies: 1. Marketing.
                        2. Bench test and repair of avionics.

Defence   Outputs: 1. Analysis services.
Division   2. Engineering support services.
                        3. Sales, assembly, and production of unspecified goods.

              Technologies: 1. Computer-based mathematical analysis.
                        2. Engineering project management.
                        3. Engineering analysis and design.
                        4. Unspecified fabrication and production.

The major civilian customers for Avionics included airlines and corporate aircraft outfitters and owners in the United Kingdom, Europe, and Africa. The primary defence customer was the MoD. The total DAE avionics task required marketing of the parent company's avionics hardware and subsequent repair of the installed gear. This marketing operation was clearly in support of the repair function. The actual avionics, which were developed and manufactured by the American divisions, were marketed with the various customers in an effort to get the parent company's hardware installed on a large number of aircraft. The DAE marketers were physically and 'culturally' closer to a local set of potential 'end users', thus they could provide an important extension to the overall parent company marketing effort. For DAE, this type of marketing was either directly in support of American manufacturing operations or possibly 'middle-man' transfers to customers through which transfer pricing profit could be attained (30 Sept 83).

There was no intention of ever developing any production or

fabrication capacity in the United Kingdom for avionics. The
profits from production of the devices were to accrue to the
producing divisions in the United States. DAE profits would come
primarily from test and repair contracts with airframe owners who
held parent company installed gear. Once the avionics were
installed on an airframe, then the owner of that airframe became
a potential customer for DAE's test and repair service.

An additional marketing effort was required in relation to
these potential customers to entice them to purchase test and
repair services from DAE rather than from other sources. There-
fore, both levels of marketing were required to support the test
and repair operation. The overall relationship is shown schem-
atically in Figure 6-1. Members of DAE were involved in all
three aspects of this operation.

Figure 6-1
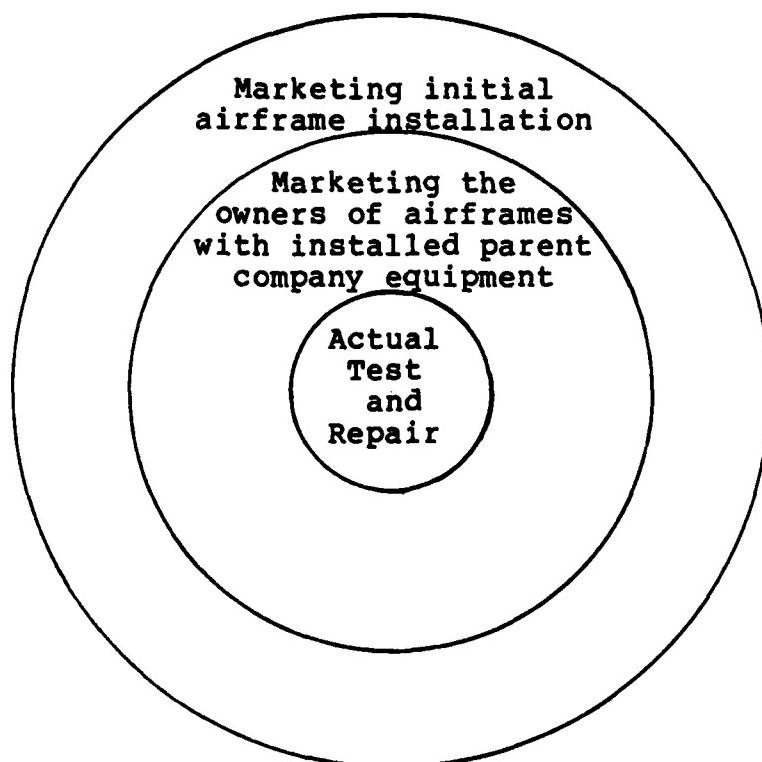
The actual test and repair operation was the 'core technology' for Avionics. The first level of marketing 'created' potential customers for the second level of marketing which 'created' contracts and work for the ten men on the repair benches. Thus, a core technology is identified and a sequential interdependence can be located within Avionics.

In the Defence Division the picture was not as clear. The outputs identified with this division (analysis and engineering support contracts and assembly contracts) were almost totally 'potential' rather than 'actual'. The slight revenue which this division had generated was the result of analysis contracts which were completed by subcontracting to American divisions rather than through actual work accomplished by DAE. Several contract bids were pending and many potential contracts were discussed, but no major contracts had been signed.

A major difficulty for analysis stems from the fact that what Defence Division was presently doing did not reflect what it would be doing. Once operations stabilized, the technologies would include such processes as computer analysis, engineering management of government projects, post-design system evaluation, 'middle-man' transfers, assembly, and eventually production. All of these activities would have to be supported by the attendant marketing and administrative services. However, for DAE during this period, these were all only anticipated. Knowledge of the technologies which would actually be employed was very general and vague.

The task environment was also known only very generally. It was clear that the primary customers would be in MoD, but that was slight specification. MoD is a very complex ministry with a myriad of agencies capable of letting contracts for a wide range

of goods and services. The three armed services and a large
number of smaller establishments require a seemingly infinite
list of analyses, support equipment, test gear, and weapon sys-
tems. The MoD budget is large and the potential for small (under
£1m) contracts, either as a subcontractor or directly with the
ministry, is extensive. The competition for these contracts is
great and includes most of the largest British firms.

Another complicating factor is that there is a strong 'buy
British' bias in the ministry. The ability to produce defence
related goods and services is considered a national, strategic
resource which must, if possible, be nurtured. Thus, DAE faced a
difficult choice of presentation style. If it was perceived as
an independent British firm, then it was too small to handle
complex projects. If on the other hand, it was perceived as an
outcropping of the parent company, it was not seen as British.
The balance between these two views was a continuing problem for
Defence Division.

The uncertainty surrounding Defence Division was reflected at
all levels of DAE. Comments from DAE members describe this
situation.

First the managing director:

Bob: [DAE is] quite an insecure environment. You don't have an
    organization and all that means. It's exciting, but it can be
    insecure as well...We've brought in a lot of people [and]...no
    matter how many times we say, 'you'll have a desk and little
    more and we expect you to use your brains and build us a
    business', they still expect more...[We're looking at a time
    frame of] ten years or more. Hell, it's taken four years to
    get the people we have now. [22 Sept 83]

and a director:

Nigel: Really, of course, we have no design or manufacturing
    capacity in the U.K., but that's, broadly speaking, what we're
    headed towards. Right now, we're mostly a field sales opera-
    tion in avionics...[and] we have an embryonic design and manu-
    facturing potential - some engineers - and we are growing the
    marketing image of design and manufacture. But it takes a long

time. [Named company] has been at it for 13 years now; [another] for 25. It will take us time. [10 Jun 83]

A senior manager:

Matt: This is a traumatic time for me. We're growing a business with no real assurance as to what that business might be or even that there's a business there to grow. [3 Aug 83]

Finally, an engineering manager:

Colin: During the interviews [prior to being hired by DAE] I thought that much more was firmed up with [the parent company]. I thought that their business was much more developed...So, well-intentioned statements about 'breaking into the business', well, I read between the lines. I thought, 'I don't know how they're going to do it' but I assumed that they had contracts that they couldn't tell me about because I was only a potential employee. I was tricked by my own cleverness...So when I got in, I found out how really far from breaking into the business we were. [21 Oct 83]

In the Defence Division, while there was much activity, there was little economic output (See Table 6-1). The members spent most of their time calling on customers, meeting with parent company divisions, creating and revising plans, and generally trying to establish and extend contacts in the industry. In light of actual activity in the Defence Division, very little can be specified concerning technologies, task environments, and domains in this 'economically' focused analysis. Certainly no 'core technology' can be identified.

6.2.2 Uncertainty, Interdependencies, and Dominant Coalitions.

Avionics and Defence Division were related through 'pooled interdependence'. They shared little in the way of resources, products, or customers, thus, economically each was relatively independent of the other. However, both required continued success of the total organization. Within Avionics, as shown above, a sequential interdependence existed between marketing and repair. Within the Defence Division, patterns of resource interdependence were not at all clear. It was possibile to anticipate

various forms of complex resource interdependence (for example, reciprocal between engineering design and manufacturing) but during this period, no such interdependencies existed.

In Avionics, the sources of uncertainty are identifiable within the concepts 'task environment' and 'technology'. The major source of uncertainty was in the task environment. That is, the customers, competitors, and regulatory groups (Thompson 1967, p 27) were variable and often unpredictable. The technology, on the other hand, was relatively well understood. Once the piece of avionics was actually on the bench, the technicians could be equipped and trained to test and repair the device. For Avionics, initial difficulties derived from acquiring necessary repair equipment, recruiting and training technicians, insuring a constant stream of reparable avionics to the bench, and receiving authorization from various regulatory agencies to actually do the work. By 1983, the repair line was adequately equipped and manned. (That is, uncertainty from the technology was reduced.) However, the customers and the regulatory agencies (task environment) continued to generate a great deal of uncertainty.

As Model 1 predicts, the managers of Avionics (2-5 people) spent a great deal of effort attempting to deal with these sources of uncertainty. These managers travelled frequently (usually they were out of the office two or three days a week), meeting with representatives of various government agencies and customers. In general they worked to keep the line supplied with reparable avionics and to increase the number of devices actually available for repair. The difficulties encountered in interviewing these men is illustrative of their activities. They were often unavailable and when they were, frequent interruptions were the norm. During a one hour interview with the Director of

Avionics, for example, he was interrupted by three telephone calls during which he discussed 'problems' that included a lost shipment of broken avionics, technical questions from a potential civil customer, the status of negotiations concerning a large contract being bid by the American divisions, difficulties concerning a technology transfer license, and the status of a proposal for MoD (31 Jan 84).

Governments were considered a less 'controllable' source of uncertainty than customers and competitors. The managers felt that they understood the marketing problems well. Essentially, they faced a fairly price sensitive market which could be approached through conventional marketing appeal to price and quality (30 Sept 83). With government interventions however, there was little the managers could do other than make their case and wait. A good example of this kind of difficulty is the change in U.S. technology transfer regulations.

Ted: [On this particular repair task] we have the ability and the equipment, but we haven't got the technology transfer license. We began putting in the equipment before the technology transfer thing became an issue. So now, we'll have to wait until we get the license. Actually, what we got was a reverse authorization. Some things we had been doing, suddenly we had to quit and pretend we never heard of them. We'll gradually get the authorization, but it's a bureaucratic mess for the time being. [31 Jan 84]

In Avionics, the 'dominant coalition' anticipated by Model 1 is visible. A dominant coalition appeared which consisted of the DAE managing director, the director of Avionics, and the manager of Avionics service. With the definition of outputs offered thusfar, the exchange relationships are 'obvious'. The managing director could offer continued support through strong contacts with the parent company hierarchy. The Director of Avionics could offer revenues and profit for DAE, and the manager of Avionics could offer both marketing expertise and insurance that

the repair line was running well. A 'fringe' member of this coalition was the Director of Business Development. Though he could offer no specific 'economic' exchange, his marketing expertise and 'control' of DAE marketing resources made him an important resource for Avionics. These four people had international contacts in the airline industry and in the American divisions. In general then, exchange among the directors and the manager can be characterized in terms of production logic. The directors provided domain specification and the manager insured that the domain requirements were met (30 Sept 83, 31 Jan 84).

This coalition worked to insure a growing base for operations and to 'protect' the repair line from fluctuations which would inhibit the smooth flow of devices through the line. In this the dominant coalition was successful. Two years before, the repair operation had not existed. By 1983, Avionics were repairing over 500 units per year. On the line itself, the only major changes were the introduction of a second shift and an increase in personnel. Against the very hectic backdrop of the rest of DAE activities, this group seemed exceedingly tranquil.

In Defence Division uncertainty also played an important role. However, it was not uncertainty which can be reasonably specified in terms of 'task environment' and 'technology'. The most precise statement that can be offered is that the major source of uncertainty was where specific uncertainty would come from. There were virtually no 'real' outputs and consequently resource dependencies cannot be specified. Though various members at various levels were seen to spend a great deal of time working together very closely on a number of projects, these groups cannot be delineated as true 'exchange' coalitions in an economic sense. Defence Division was truely an anticipatory

business. It had the appearance of an instrumental organization, but its instrumentality cannot be illuminated through an 'economic' or 'productive' framework. The managerial hierarchy itself was groping for technology and task environment specification, thus it could not form a coherent set of dominant coalitions or the Parsonian hierarchy posited by Model 1.

The managers of DAE were aware of this situation. First the words of a senior manager:

Matt: It's time to grow up. We need a long-term strategy and all the good things - yes, I'll say good things - that come with it: an identity, a culture, the long-term embedded things. [11 Oct 83]

And a director:

Nigel: Uncertainty is the biggest factor around here. I've detected [that people feel] unsettled...People don't know how it [the future] will affect them personally. We've reached the level where there's too much uncertainty.

Mike: How do you detect that people are unsettled?

Nigel: The questions they ask. And when I can't answer them, I'm led to believe that they're right. If management can get settled [pause] perhaps the unsettlement is centered in management. I suspect that people on the shop floor are not affected yet. That's really untested. I just have this vague feeling that that's true. Yet vibrations tend to take the tremors out to them eventually. [17 Nov 83]

6.2.3 The Role of S-3.

S-3 was an investment necessary to grow the business. Increased and efficient plant and office space were obviously required if DAE was to fulfil its strategic purpose. S-3 was nothing more than this increased facility. In Avionics, the requirements were clear. This operation required offices, storage facilities, and a shop floor area for the repair line. In Defence Division, however, the requirements were specifiable only as 'more and bigger'. Since constructing a building and developing business systems are long lead time projects (S-3

required over two years to complete), the new building was a necessarily risky investment. The proposed business systems, office automation, and electronic building security were a part of this investment in future efficiency.

It is possible to explain the transition of S-3 in terms of the logic developed thusfar. For Avionics, a specific floor plan was possible; storage space, work space, and offices were required and a fairly firm size of 8000 square feet was estimable. This basic plan remained constant throughout 1983. Simply, Avionics required certain facilities in close proximity to Heathrow airport. S-3 fulfilled this role and was ultimately (partially) occupied.

In Defence Division, the specific requirements were unkown. The management hierarchy was unable to specify the situation and thus, while the acquisition was an active probablity, S-3 remained a contingency plan. The lead times required for construction demanded that the managing director commit to building S-3 before adequate knowledge could be available. As the most likely contingency shifted, the plans for S-3 shifted as well. Thus the many and varied floor plans for S-3 are easily explained. (At least three major versions were recorded.) During the two years while S-3 was under construction, as specific contracts became more or less probable, the managing director changed the plan to reflect the different anticipated requirements. Eventually, when the acquisition was finalized, a totally new plan was necessary and the managing director dropped S-3 altogther. This explanation is summed up by one of the senior managers:

Matt: No one's saying no S-3, therefore no [Defence Division]. They're saying no S-3, therefore we'll do what we were going to do, somewhere else...Taking the 7 S's view, our superordinate goals remain the same...Decisions are made on the best informa-

tion avaiable. Two months ago, the best decision was for S-3. Now it's for no S-3. [10 Nov 83]

6.3 THEORETICAL INADEQUACIES AND RESIDUAL QUESTIONS.

Avionics and Defence Division faced uncertainty of fundamentally different types. Model 1 provides an explication of this variance. In Avionics, though the business was hectic and fast moving, it was possible to understand desirable outcomes and cause/effect relationships. Uncertainty was present, but when problems arose, the members of DAE could frame questions in terms of a specifiable domain. Crises could be identified and attacked. If a customer threatened to cancel a contract, negotiations on price or other options were possible. If a batch of replacement parts was found to be defective, a new batch could be emergency ordered. In Model 1 terms, Avionics faced a complicated situation, but not a particularly complex situation. Decisions could be effected through a 'computational' strategy.

In Defence Division, on the other hand, there was little specifiable knowledge about desirable outcomes or cause/effect relationships. The slogan 'grow a profitable business' could be agreed upon and repeated in different forms by members at all levels of the organization. This slogan, however, did not offer any guidance as to precisely what should be done. It was clear that Defence Division needed 'to grow' contracts, personnel, and facilities, but many questions remained: Contracts for what? What skills should the personnel have? What type of facilities would be appropriate? At this time (and for the previous four years), the managerial hierarchy could not answer these types of questions. As the managerial hierarchy loses its ability to answer these questions, Model 1 loses its ability to 'explain' the organization.

In analyzing DAE, this weakness of Model 1 theory is extremely critical because of the the overall importance of Defence Division to the success of DAE. Quoting the managing director:

Bob: [Defence Division] is really where our major thrust, in terms of growing engineering, is. This is where manufacturing will grow. This is really what we're here to do. [9 Aug 83]

The most critical organizational aspect of DAE is <u>least illuminated</u> by this first Model 1 analysis. In Defence Division, there was little knowledge about desirability of specific outcomes or salient cause/effect relationships. Thompson suggests that in this type of situation the organization must wait for 'inspiration'. This is little theoretic guidance either for the organizational members or the social scientist. Further, it does not satisfy the questions posed by the empirical data. After this first Model 1 analysis, many questions remain. Four such question areas are listed:

1. The analysis thusfar, might imply that Defence Division was totally chaotic, however the data do not support this. Individuals exhibited periodic (usually temporary) 'crises of faith' when they spoke of the enormity of the task which lay ahead. However, as frequently, they spoke excitedly about the challenge. In observing Defence Division, one saw a quite orderly and normal organization. People came to work, made customer calls, attended regular meetings, wrote letters, made photocopies, filed records, created plans, boasted of successes, and commiserated over setbacks. Investments were made, pay packets were issued, and new personnel were recruited. DAE did not appear particularly chaotic nor did it appear that people were passively waiting for 'inspiration'.

2. The second theoretical question derives from the nature of 'power' as embedded in Model 1. 'Power' is seen to accrue to those people who control resources which are 'critical' to protecting the 'core technology'. That is, in an organization which must accomplish a certain form of instrumentality, persons who can either support or impede the accomplishment of the instrumental outcome will have organizational influence. In Defence Division, it has been shown that stating organizational instrumentality in economic terms leads nowhere. The organization essentially had no economic outputs at this time, thus, no specification of 'criticality' of resources is possible. Hence, it is <u>theoretically</u> impossible to apportion 'power'. However, the members of the organ-

ization apparently found no difficulty in this regard. They
seemed to know who was 'powerful' and who was not.

3. If the new building was merely a contingency against the
possibility that no acquisition could be made, then the total
enthusiasm for S-3 and S-3 related activities is difficult to
understand. The acquisition should have been received with
as much enthusiasm as S-3. In fact, since the acquisition
more completely filled the 'economic' requirements, it is not
unreasonable to assume that it would have been more enthu-
siastically received. Such was not the case.

4. The final question offered here is closely related to
number 3 above. Why was S-3 not immediately displaced from
the active plans as soon as the acquisition became firm? S-3
seemed to carry on for nearly a month and only gradually
faded out of the plans. If S-3 were a physical object under
motion, we could say that it exhibited inertia. However,
since it was only a set of plans, some other explanation is
necessary.

Pondy and Mitroff (1979) specifically criticize the weak-

nesses in Thompson's work (and by extension all 'open system'

theories) which have led to difficulties such as those described

in the questions above. They argue that Model 1 is largely

incapable of dealing with organizational 'birth'. The model

addresses existing organizations or at best existing organiza-

tions undergoing subsequent growth. However, the 'birthing'

process itself is beyond the scope of analysis. This brings us

to realize that, in this first analysis, we have committed sev-

eral theoretical errors because we were not sensitive to time.

Model 1 relies on 'deterministic' explanations which posit that

the organization as a social unit is affected by 'situational

factors' (Bourgeois 1984). We have, thusfar, identified certain

members of DAE as 'managers' and Model 1 argues that these people

derive 'power' from their control over critical resources as

specified by the technology and task environment. These man-

agers, who derive their 'power' from the present domain, can

subsequently impose their aspirations for a future domain on the

total organization. However, DAE as a 'new' organization did

not yet 'exist' in a specifiable economic domain. Thus the 'power' bases of extant coalitions are unknown and the 'determining external forces' are not yet 'present'. Therefore, neither can yet have any 'causal effect'. Clearly further analysis of DAE is justified and required.

The analytic applicability of Model 1 is not yet exhausted. It is possible to reformulate the analytic base and attempt to, at least partially, address these theoretical difficulties. This reformulation will follow the suggestion of Meyer and Rowan (1977) by treating DAE not as an 'economic' organization, but as an organization seeking to establish 'legitimacy'. Meyer and Rowan argue that the most common view of organizations, as activities judicable by standards of effectiveness and efficiency, is frequently not appropriate. Many organizations (for example, 'service' organizations) 'create' intangible outputs rather than physical outputs. If the organization has no directly measurable physical output, then such standards as profit or turnover are not direct measures of organizational effectiveness. Rather they are 'consensually validated symbols of organizational legitimacy'. That is, while some organizations are, in fact, properly judged by economic 'norms of rationality', many must seek to fulfil the 'myth of rationality' which is established in societal rules, reciprocated typifications, and taken for granted 'facts' (Berger and Luckmann 1967). From this position then, one assumes that if the substance of rationality cannot be fulfilled, then the organization must seek to fulfil the form of rationality.

All of this leads to a second version of Model 1 analysis which reflects the domain uncertainty present in Defence Division during this time period. Thusfar, we have looked at DAE by

focusing on what the organization will (or more precisely, might) become. Now it is necessary to analyse the organization as it 'actually' existed. To accomplish this, we must step away from the members' own explanations and attributions. In the first analysis, their views were respected. In general, they 'explained' DAE and their actions in terms of economic outputs as though those outputs were 'real' rather than anticipated. Here we must introduce a definition of 'outputs' which was not offered by any of the members nor listed in any plan. In short, an analytic fiction must be introduced: DAE was an organization which <u>produced convincing evidence of future viability for a variety of client groups</u>.

This restatement of the outputs of the organization leads to an entirely different presentation of DAE. It is critical to stress that assuming an intangible 'output' for the organization is not at all beyond the normal scope of Model 1. Thompson (1967) develops many examples of such intangible outputs (<u>e.g.</u>, The United Nations producing 'world peace' (p 15) or psychiatric hospitals producing 'therapy' (p 17). This redefinition of outputs is merely a recognition of the fact that it is a fallacy to treat DAE as though it was directly affected by technologies and task environments which did not yet exist.

6.4 VARIATIONS OF THE THEME: <u>TO GROW</u> A PROFITABLE BUSINESS.

In this section, we shall focus on the Defence Division of DAE and 'domain uncertainty' which, thusfar, has confounded any substantial Model 1 analysis. There appeared to be agreement that the fundamental requirement was 'to grow', but this offered only the most general guidance to the actors. There was uncertainty as to what the specific sources of uncertainty would be.

The managerial hierarchy cannot be seen as directly reducing this form of uncertainty.

The most convenient 'explanation' of this lack of managerial guidance - that the managers were incompetent - is untenable. The business was, from the outset, a venture into the unknown. The charter for DAE was 'to grow a profitable business' into a general market niche rather than to take advantage of pre-established or confirmed business opportunities. There were many potentially critical variables which could not possibly have been forecast. A partial list of these includes:

1. Future MoD expenditures and requirements.
2. Progress of various existing contracts presently held by 'competitors'.
3. Privatization actions by the British government.
4. Future rulings by various governments concerning technology transfer restrictions.
5. New technological developments and 'synergistic' combinations.
6. Parent company decisions concerning DAE's participation in non-British markets.
7. International currency fluctuations.

Factors such as these were unkown and to argue that the managerial hierarchy should have reconciled such questions prior to attempting to enter the market misrepresents the nature of the situation. Entry into this field required an established capability before more ambitious projects would become feasible. The long lead times involved demanded commitment before specific details could be known. DAE was a risk. It was a risk for the parent company and it was a risk for all the members.

As argued above, the situation can be addressed, at least partially, by shifting the analytic focus from DAE as a unit of 'economic production', to DAE as a unit of 'evidential production' (convincing evidence of future viability). Through this analytic focus, the activities performed by the members of DAE become more 'sensible'. From the record, it is clear that the

members of DAE actually spent most of their time 'communicating'.
This entailed meeting (formally and informally), briefing, ques-
tioning, and making presentations to people in MoD, in other
British firms, or within the parent company. Most of the effort
and activity revealed in the data was directed towards this type
of 'communicative' activity rather than in actually producing
physical outputs. It is argued that DAE is fruitfully seen as an
organization which needed to discover, refine, and transfer
evidence which tended to confirm future profitablity and future
'major business' status.

To pursue this analysis, it is necessary to define three
major 'client groups' which DAE had to 'serve'. Each of these
abstract 'groups' required a continual stream of 'evidence' to
insure continued support for DAE's quest after more specific
'domains'. Though these groups shall be listed sequentially,
there was no distinct primacy for any one group. Each was served
simultaneously and continually by various members of DAE. In-
deed, the label 'client groups' implies a specification which was
not reflected in the language of the members of DAE. The catego-
rization of three client groups is an abstraction which sorts a
range of people that the members of DAE called 'customers', 'com-
petitors', 'American brethren', 'corporate fathers', and 'con-
tacts'. The client groups will be categorized here as 'the
parent company', 'the market', and 'DAE members'. The basic
'production process' in which DAE was engaged entailed gathering
data from a range of sources and 'sending messages' to each of
these client groups.

First, 'the parent company' is defined as the total corpora-
tion of which DAE was a subsidiary, specifically including the
formal hierarchy for financial reporting and control as well as

the many American operating divisions. This 'client group' was critical to DAE because they were the primary source of technical, financial, marketing, and product support. This group required evidence which supported the proposition that DAE would become a viable business within the U.K. defence industry. For the parent company, DAE's major requirement was to produce evidence which emphasized 'profitablity'. That is, the parent company (in its role as friendly merchant banker and technology supplier) would be required to supply DAE with extensive and varied investment. Presumably, continuation of this investment was based on a belief that a financial return would eventually be attained at the parent company level[1].

It will be seen below that there were a variety of communicative conduits between DAE and the parent company. Perhaps the most obvious were the formal financial reporting and planning documents which were routinely submitted. These documents were formatted to stress 'economic rationality' by listing such 'measures' as profit margins, return on investment, and asset turnover. Certainly, the importance of these 'measures' should not be short-changed. 'Present profit' (even the 'near profit' actually attained by DAE) is one form of evidence of future viablitiy. However, Model 1 questions of 'instrumental rationality' were also critical. That is, in presenting evidence to the parent company, DAE not only had to address the question,

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1. This is obviously a simplification. It is reasonable to assume that various sorts of less tangible results, such as increased international status of the corporation, were also expected. However, the primary data gathered were from DAE members, thus little is known about such 'political' factors at the parent company level. Further, the members of DAE unanimously reflected assumptions about the parent company which stressed the 'financial' and ignored the 'political'. To the extent that DAE offered 'evidence' to the parent, it is assumed that they were guided by this belief.

'Can we do it profitably?' but also the question, 'Can we do it at all?'

The second 'client group' is 'the market'. This amorphous collection consisted of potential customers, competitors, consortia partners, and a web of informal 'contacts' in the defence industry. As shown in the previous chapter, this industry is shifting and difficult to capture neatly in labels. A company which is a competitor today may be a lucrative customer tomorrow and vica versa. The label, 'the market' shall be intended to evoke this variability and imprecision. The spirit intended is reflected in the words of the managing director:

Bob: We have to say what this company is. If you ask me what my company will be identified with, I couldn't answer you now...I will succeed, in my view, when we are identified with something, when that question is answerable. I could do another £10m, but until that question is answerable, and not just by me, but by a broad college of observers in the industry, I will not have been successful. [12 Jan 84]

'The market' is used to capture the abstraction which the managing director has here called a 'broad college of observers in the industry'.

Evidence offered to the market was less directly concerned with demonstrating profitability and more with demonstrating the general proposition that DAE was capable of becoming and would in fact become, a major, independent member of the British defence industry. In this market, a contract is a long-term commitment by all parties involved. Such contracts are for critical, costly, and politically scrutinized, defence related goods and services. Thus the contracting agency demands assurance that the contract will be successfully completed. From the viewpoint of members of DAE, this reflects what they called an interplay between 'image' and 'reality'. DAE needed to be seen as capable of actually fulfilling a contract (image), but also needed to be

able to actually complete a contract in case one was attained (reality). The general strategy of self-sufficient growth poses a problem in this interplay which shall be a critical theme below. It was necesssary to keep 'image' slightly more advanced than 'reality'. If each new contract was to allow for organizational growth, either in technical capacity or size, then the present 'reality' would have to be surpassed in contract bids. At the same time, the variance between what was aspired to and what was possible could not become too great, both for ethical and business reasons. The managers of DAE all had individual reputations in the industry and could not afford to become known as untrustworthy by grossly misrepresenting their company's capacity. Organizationally, if DAE failed on a contract, then future contracts would become more difficult to obtain. The overall relation with the market was a complex search for contract possibilities that were 'plausible', yet fit this complicated set of requirements for 'stretching but not breaking' the organization. This relationship required complex and extensive forms of communication which will be described below.

The final client group consisted of the members of DAE themselves. These people were committing their careers, their personal efforts, and their domestic situation to the proposition that DAE was eventually going to be a stable, contributing member of the industry. For them, DAE was not a light experiment from which they could easily withdraw. Their commitment to their tasks required assurance that their positions with the organization would continue. The members of DAE, therefore, were not only interested in producing evidence for the two other client groups, but also in monitoring how these client groups were responding to the evidence. Simply, DAE members required as-

surance that both the parent company and the market were convinced by the evidence.

The first Model 1 analysis led to the conclusion that the members of DAE required 'inspriation'. This second analysis will examine some of the ways that the members of DAE sought to create their inspiration. DAE is now seen as a process of transformation of 'raw data' offered by one client group into 'messages' suitable for another client group. In this, DAE was, most generally, a mediator between the parent company and the market.

6.4.1 Outputs, Technologies and Task Environments.

The basic process of DAE is represented in Figure 6-2. The organization is portrayed as taking in a variety of 'raw inputs' in the form of data and converting these into a variety of formats which served the purpose of 'sending messages' to the major client groups. There was a constant flow of raw data into DAE, which was converted and modified, and finally, presented.
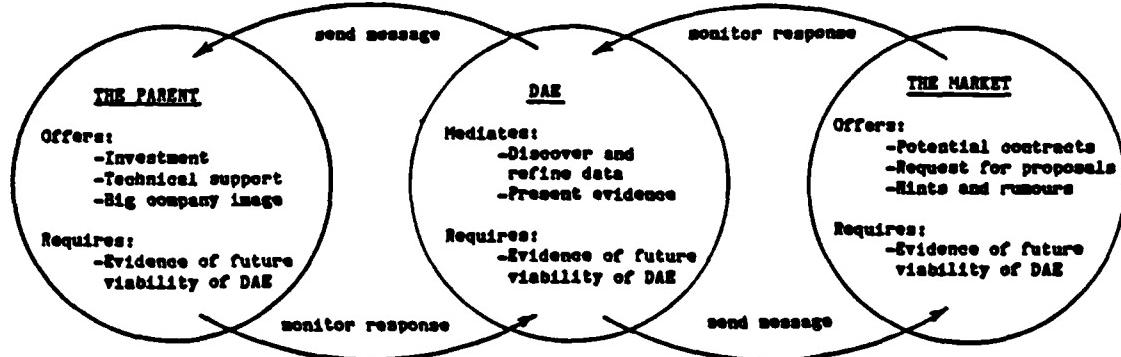
FIGURE 6-2

Data from the parent company were modified and transmitted to the market. The 'message' intended for the market included the following main points:

1. DAE has firm financial and technological support from the parent company.

2. DAE is not an American firm. It is British with strong, but not dominant American ties. DAE can and will be an independent, contributing member of the British defence industry.

3. DAE has the present ability to fulfil modest contracts in several areas and can grow to fulfil a wide range of major contracts.

Similarly, data from the market were modified and transmitted to the parent company. The intended 'message' to the parent company included:

1. There are profitable contracts to be obtained in this market if DAE is perceived as an independent British company and properly supported by the corporation.

2. DAE is making good progess in identifying viable possibilities for profitable growth.

The task of sending all of these messages demanded frequent, high variety communication with numerous people in a wide range of venues. These evidential outputs took many forms. Representative lists and brief analysis can be offered to exemplify the various outputs, technologies, and task environments. The technology for communicating with the parent company and the market will be described in turn.

For the parent company, DAE produced business plans and financial reports, shared ideas, and attended meetings. These activities were all efforts to convince decision makers in the parent company hierarchy that DAE was succeeding and, with continued support, could succeed at even greater levels. Two 'technologies' used in this effort will be examined: business planning and meetings.

'Planning' here does not refer to the traditional view of planning as an identifying function of 'rational management'. We are not analysing planning as an activity in which the managers of DAE engaged to manage the organization. Rather, we are looking at 'creating a plan' as a way to produce convincing evidence of viability for an important client group. Thus, 'planning' refers to the technology of producing and presenting 'a plan'. Such a plan was a specifically formatted and supported statement of possibilities.

The director in charge of strategic planning outlines this aspect of business planning:

Nigel: Our plans assume production, and in some cases, development, from the U.S.A. Plans change, of course. There may be several iterations that take place, so we have to change it [the plan]. But that's why personalities are important. We're really bidding for their investments and one only invests in guys one trusts...If there is a big environment out there, then our counterparts in the U.S.A. are in it. [8 Jul 83]

Nigel: Three things are constantly compared - the current plan [next 2 years], the strategic plan [next 5 years], and the current performance. The result of the whole process is what I think of as an American style briefing. Decisions are made right then. Change the plan, change the actions, change whatever. The plans are reviewed at management committee meetings. So the plans give the focus and framework for committee discussion, evaluation, and presentation. [30 Sept 83]

Nigel: The main point I wanted to make was that some of it [planning] is really a statement of faith. There are numbers out there, and there are plans to achieve them, but it's extremely vague. The numbers can be seen as plans, goals, or moonshine. An acquisition was part of the plan, but a year ago, we didn't know who it was, or how much it was. [13 Oct 83]

Nigel: So communication is one of the major reasons why I go on these trips. Well, there should be this horizontal integration that I told you about at all levels. Picture it as lines going across everywhere, like this [gestures with hands, interlacing his fingers.] We review, at least formally review, these things twice a year. What actually happens is that we go to [Europe] twice a year and brief them, but what really happens is that the regional directors, the presidents, and the managing directors get together and [three named individuals] who are kind of the senior managers for DAE [worldwide], one of them and often two are there at the consolidated European reviews. So absolutely fundamental issues get sorted out

there. [26 Jan 84]

Planning can be seen as a communicative process which required a specific group of people to meet regularly across formal lines and discuss DAE. These discussions were focused by the specific format of 'the plan'.

The status of 'the plan', as a representation of the future, was problematic. The plan itself was based on assumptions of a very uncertain domain where little could be specified. The formal company system, however, demanded specific input by specific dates. In DAE's case, the required submission dates were obviously prior to any reasonable domain specification. Apparently this administrative requirement was fairly easily satisfied.

Mike: From what you've just said, I see you saying that the process and discipline of planning is as important as the plan itself. At the same time, I'm aware that you have [the European Directorate] breathing down your neck for the plan.

Nigel: [Smiles] I have it in, as a matter of fact. Well, it's really a budget, but Bob is over in [Europe] to present it right now. Sorry I don't have a copy to give you. I think Nick has a copy. It was just completed last night. [17 Nov 83]

and the financial director:

Nick: At the moment, I'm participating in the planning process, again - or still - I suppose. [I'm accomplishing] a breakdown of the 1984 plan by month. I'm getting information from people or generating it based on data or judgement or whatever. I would liked to have involved the managers with the process much more, but I didn't have time. Besides, with the current state of the business, I doubt if it would have helped the data much anyway. My guesses are as good as theirs...There is, of course, an element of plansmanship in it all, the art of presenting a logical set of data which will get you what you need at the end of the day.

Mike: Is plansmanship a transferable skill? Is it something we should be teaching in business schools?

Nick: Yes, I think there are elements of it wherever I've worked. It manifests itself in a negotiation process. There's a degree of negotiation about it. [17 Jan 84]

In addition to being a format and forum for communication,

planning was a technology for monitoring the response of the parent company. In discussing the difficulties in such an uncertain market, the managing director said:

Bob: I may be wrong in my understanding, but as long as I can get 'loss' plans approved, I think I'm OK. [22 Sept 83]

Thus, 'planning' was, among other things, a requirement and a format for meetings, a justification and a request for support, and a clear assurance for DAE that support was confirmed (at least for the next budget year). It was a mode for a specific type of communication between DAE and the parent and it offered DAE assurance that it was 'on the right track'.

Trips and meetings with the parent company were a critical part of life in DAE. The formal meetings discussed above were supplemented by a massive number of less formal meetings by members of the management. These meetings were another venue and technique for 'sending messages' to the parent and 'monitoring the response'.

Edward: This trip was basically to see some people that are a bit out of the way for a normal trip. Usually, we can see anyone near [the big corporate centres]. This time, I went a bit further afield. So the trip had two purposes basically. First, to educate me and through me to make the information available to Stavertons. Second, to make them [the parent company] aware of what Stavertons is and does...I visited 10 facilities on 6 sites in 11 days. Of course, I haven't written my trip report yet so, I don't exactly know what I did! [2 Feb 84]

The informal meetings between parent company managers and the members of DAE were a greatly flexible and finely tuned communicative process. The following excerpts from such an informal meeting between a DAE director and a European director (an American citizen) exhibit this 'conduit' well.

[European director]: How's the [specific named potential]
  contract coming?

Nigel: Remember three years ago? It was early 1981. That
  programme was just around the corner. Well, it still is, but
  only because Donald has been persistent. He's been up there
  [to MoD] once a fortnight for three years [making our case].
  Defence, you see, is a long-term business, not like com-
  mercial...I use this example to meet some of the criticism in
  [this area] actually. Defence is a 10 year business.

[European director]: Well, the product has a 10 year life cycle.

Nigel: Even more. It takes 10 years to establish credibility
  with your customer. It's a long-term commitment to MoD and the
  British government. If we [the corporation] decided suddenly
  that the profit wasn't there and pulled out. [pause] Well,
  [we're] expected to be bigger than that. And if you stop it,
  then you've got to go through 10 years of build-up again. [13
  Oct 83]

The intended 'message' here is clear. Nigel is saying that, even

though DAE do not yet have a firm contract, there are valid

reasons and that continued parent company support is required.

His claim to parent company support is based on business and

moral arguments. To generalize, his message is that, though DAE

is not yet profitable, the parent company made this commitment

and must see it through.

   Such informal meetings were also important sources of inform-

ation about DAE's 'independence'. In the on-going exploration of

parent company restrictions of dealing with non-British cus-

tomers, such meetings were an important forum for communicating

subtle pieces of data such as 'feelings'. One business area

manager in particular was tied strongly to a product area that

required the ability to contract with non-U.K. customers. He

followed informal meetings by the managing director closely:

Colin: If [the parent company] cut out all of the [non-British
  customers] then it would really hit my business area hard...On
  a personal level, I have to ask if it makes sense to move house
  [to Wiltshire] when in six months we may have to drop out of
  the defence business because we aren't allowed to contract.
  [Bob is on a trip to the USA trying to get an answer.] I'll be
  looking for Bob to say, 'If we present the right package to the
  right people, then it will be approved.' If he comes back with

that feeling, I'll be happy. [pause] [The parent company] gives and [the parent company] takes away. They take away freedoms - that's all right. But if they take away markets. [shakes head] [10 Nov 83]

Then after the managing director returned:

Colin: [Bob just got back from the States] and the questions [about market restrictions] were not answered. The story is that, really, they won't be. Case by case, and that's probably what we should have expected. Bob went in with about 20 projects and he didn't get firm answers on any of them...In a year, after we've tried a few cases and seen if they are approved or not, then we'll know.

Mike: Did Bob get any feeling what the response would be to the 'right' proposal?

Colin: Yes. That's why I'm still here. There was a hint that the sort of feeling was that the right case would be approved. [17 Nov 83]

The many informal meetings were an important supplement to 'planning' as a method for communicating requests and justifications to the parent company and monitoring their response. This communicative technology allowed for a very subtle and flexible transfer of ideas.

The technology employed to communicate with the market was quite simple. The members of DAE simply called on people and 'spread the word' to whomever would listen. This was essentially a marketing task. However, during this time frame, the members of DAE were not marketing goods and services, but rather, the concept of DAE itself. This activity required great emotional commitment because the most obvious and unambiguous affirmation of marketing success, a firm and signed contract, was not to be expected over any short-term. At best, an actual contract could be expected during the next governmental budget cycle (that is, within a year). In fact, time frames of several years were even more likely.

The range of specific activities was great, including calling on customers, searching for modest contracts, attending trade

shows, and generally reporting the potential status of DAE. In all of these, the basic technique employed most frequently was, simply, talking to people. In the words of one director, the requirement was to 'get into the customers' minds'. The intent here was threefold: first, to convince the market that DAE was a British firm; second, to convince the market that DAE was a capable organization; and third, to discover contracts that would make the first two messages 'true'.

Colin: They actually expected Americans! I actually had that. They said, 'Oh, I thought you would be American.' So part of what I have to do is to let people know that I'm no bloody Yank. Oh, sorry. No offence. [21 Oct 83]

The proposition that DAE was a British organization and not simply a collection of British citizens who served an American company, required establishing organizational credibility. This, in turn, led to the search for contracts. Most of this 'communication' was based on the very general proposition that DAE _could_ do much more than it was doing. Developing this image was called 'seeding ideas'. It was not perceived as an easy task.

Donald: The...market in the U.K. has a large over-capacity. There are lots of separate firms. They're all basically competent and they are all chasing an essentially stagnant market...It's very difficult to go up to MoD and say 'Hi MoD, here's a new company.'

Mike: So how do you do it?

Donald: Mainly by going around and talking to people. I spend two or three days a week on the [potential named contract] trying to bias them to our point of view...Everyone knows us as an American company. I have 10 or 12 customers and they haven't changed and they won't change. [pause] Unless I can find something that we can manufacture...[29 Jul 83]

and

Colin: [This competitor's existing MoD contract] is bogged down. So they're [MoD] extending the studies and sniffing around all possible contractors. So we're interested. [We] want to either sell American components to the U.K. consortia or bid it directly with MoD, if they'll have us, or get some license agreement in the U.K. We [DAE] have to get our hands on the product somehow, put our mark on it. Perhaps make some slight

modifications on it locally, modify the [control algorithm].
We've got to seed the idea that we're progressing toward 'Made in the U.K.'

Mike: How do you 'seed ideas?'

Colin: Well, I save up two or three things so I have an excuse to make a phone call or stop by the ministry. Then I say, 'By the way'...So I use those [excuses] and chat with him. I just give him ideas. Then once you get them used to the ideas, you try to get it official – down in writing. [1 Jul 83]

This communicative technology, though simply 'talking to people', required a very complex and shifting web of 'contacts', from whom rumours, guesses, hints, reports, numbers, committee decisions, and the like could be discovered.

Colin [He is speaking on the phone with a colleague from another firm – a potential partner on this contract. He is taking notes as he talks.]: Is that how you see it?...You reckon it might end up that way?...Yes, Yes, I think it would be worth-while us having a chat. [They set an appointment for later in the week and talk in a similar pattern for another 10 minutes. Specific topics include MoD people and articles in a technical journal. At the end of his telephone conversation, we return to our 'interview'.]

Mike: So what's changed now that you have a real factory?

Colin: For one thing, I can show the project officer on [specific named project] around now...As I told you before, the project officer from MoD stopped by at [the parent company] in Washington to see what we had to say on [this project]. He said that he was interested in what we had to say, but unless something dramatic happened, he didn't see that we really had a chance. [The bid list has already been short-listed down to two British consortia.] Well, the dramatic happened. They announced that the programme had been put on hold for 2 years. And we haven't seen the project officer since. That was what that phone call was about. Everyone in the industry is trying to find out what the hell's going on...I've heard that they are still looking for the same in-service date. If they want to keep the same in-service date, they'll have to look at us again.

Mike: How did you find that they want the same in-service date?

Colin: Well, I told you that [the project officer] went on a trip to the U.S. On that trip, he was accompanied by [name] who is his technical advisor. I went to talk to [the technical advisor] and he told me that he had heard the gunners [army establishment] talking like the date had to remain the same. So we are in a very different position than we were a few weeks ago...The ministry are still looking around to see if there are any gold coins that may help sustain some of this project. Perhaps some potential for feasibility studies...[19 Jan 84]

In the flow of communication from 'market' to 'parent company', data was discovered, analysed, and synthesized by the engineer/marketers into general propositions about the likelyhood of a specific contract. Above, we saw that Nigel delivered a 'processed' message to a European director - 'the contract is just around the corner'. Now we can observe this message 'in process'. Donald, 'the persistent marketer' was monitoring his sources closely.

Donald: [The specification by MoD favours our system, but ours though technically superior to the competition is also more expensive.] I'm confident that we'll get it. It has to make the committee rounds, but the key people have already made up their minds...The key thing to note is that the MoD have already allocated enough money in this programme for the more expensive system. [1 Mar 84]

Thus we see that Donald examined specific data and synthesized a general proposition of confidence which was an input to the communication exchange with the parent company.

The final client group, DAE itself, was served simultaneously with the other two. That is, as the members of DAE monitored response to the messages they were attempting to send to the parent and the market, they themselves were either reassured or not. As long as the parent company appeared to give the independence and support required and the market seemed to offer potential contracts, then the proposition that DAE would continue was tenable. This proposition, however, was not a given and required constant appraisal by the members of DAE.

Colin: So [for me] the move [to Wiltshire] is a commitment. I thought, in the back of my mind that I could always move back to my old company or get a job in two or three months. But if I move, I'm in. [pause] I'm in and I don't even know if there's a market...Stavertons has a kind of a market niche, however rundown or battered it is...I haven't been able to bring them [the market] here [gestures around his office and shakes head]. S-3 was supposed to be the place. I never thought it was...We don't have labs or drawing rooms. We don't even have a voltmeter to check my car! Stavertons have the basic tools of the

trade...Now we have a much better chance - a chance, mind you - of pulling it off.

Mike: I'm back to the question - Why even try?

Colin: Well. [pause] Assuming that the corporate fathers know their business better than me. [pause] I don't know. Defence doesn't generate the kind of returns that commercial does. It's a long-term business. [pause] That may be their rationale. If it takes ten years to build up, it also takes ten years to run down. [21 Oct 83]

6.4.2 Uncertainty, Interdependencies and Dominant Coalitions.

In this 'evidence generating' organization, different coalitions become visible. The 'critical resources' were data either discovered in the market or from the parent company. Data from one client group was of little use for DAE if it was not somehow used to add to the general message of organizational viability. The people who 'controlled' these resources were those who spoke most frequently with 'outsiders'. In general, two groups can be identified along these lines. The directors were in close communication with the parent company hierarchy while the engineer/marketers spent a great deal of time analysing potential markets and establishing and extending personal contacts. There was, of course, much overlap. In this small organization, everyone was tied to each client group. The engineer/marketers made presentations to and had meetings with the parent company, the directors spoke with potential customers, and both worked very closely with one another. Thus, the delineation is merely one of degree with the directors spending more effort with the parent company and the engineer/marketers spending more time with the market. These groups were initially composed of three directors and six engineer/marketers.

The dominant coalition seen to be created by this domain is clear. Whoever had access to data from one of the client

groups was in a position of control over critical resources. The
members who communicated most frequently to the parent company
offered links which were necessary to create and maintain strong
corporate support and independence of DAE. The members who spoke
most frequently with 'the market' provided plausible potential
contracts as supporting data. All of the members 'carried mes-
sages' and gathered 'raw data' about possibilities and response.
These were the resources which, in place of actual product and
profit, DAE required for continuation. This coalition is il-
lustrated in the following set of quotations. Bob is the man-
aging director to whom Matt directly reports. Colin, in turn,
reports directly to Matt. All three are linked together in a
communication coalition which ties the parent company to the
market.

Bob: Well, the need for organization is critical. People need
   specific roles and to implement those, you need a hierarchy.
   But having said that, I find that levels of contact can't be
   just one level down or one level up. The object is to achieve
   results and to do that, we need to communicate more than just
   hard numbers - attitudes, values, guesses - a lot of vague
   things...It's just as important for me to talk to Colin [an
   engineer/marketer] as it is to talk to Matt [Colin's 'boss'].
   [22 Sept 83]

Later, Matt and Colin are talking:

Matt: I need to be filled in on the [specific contract].

[Colin briefs him on new details.]

Matt: How did you find that out?

Colin: I heard it from [name] at [specific named company]. I
   bumped into him on something else. I don't think he knew that
   we would actually be bidding this one.

Matt: I think that source will dry up quickly.

Colin: Yes indeed. But at any rate, that's why it's important
   for Bob [the managing director] to talk to [the corporate vice-
   president] on this one. [Parent company] support is now
   needed... We've been trying to get a fair chance and fair
   evaluation on this. Well, now they've given us that chance.
   If we now lose out for technical reasons, then OK. But if [the

parent company] decided not to support us now, we'd really be hurt. [8 Mar 84]

In this tightly knit coalition of directors and engineer/marketers, no clearly dominant individual was identifiable. The most likely singularly dominant person would have been the managing director. Theoretically, he was in a position to be the single focal point of the total informational set. However, his concentration was diverted. He was occupied with a myriad of tasks which precluded his sole concentration on the overall communicational requirements. His functions with the acquisition negotiations as well as his various responsibilities in the holding company demanded much of his effort. Between October 1983 and March of 1984, he spent nearly 30% of his time abroad. When he was on site, his attentions were divided among a variety of tasks in addition to the communicative technology. He was, certainly, an important member of the dominant coalition, but did not unequivocally dominate the coalition. He was a critical conduit for communication with the parent company, but he spent little time actually talking to customers. For this data from the market, he was dependent on other members of the organization.

Not all engineer/marketers were equally capable of generating critical evidence. Some were more able (either because of personal ability or their 'market speciality') to garner convincing evidence of future lucrative contracts. Thus, while theoretically all marketers were potential members of the dominant coalition, several were considered to be in 'the inner circle'.

Edward: When I came back [from holiday] Nigel showed me this organization chart and my new position seemed firm. That's where it stands now.

Mike: I'm surprised. I assumed that this organization chart had been briefed and discussed among you senior people and only

surfaced to outsiders like me after the signing ceremony.

Edward: You're talking about the inner-inner circle. That's
   [the people who report directly to the managing director.]
   Then there's the next tier, Colin, me, Sean, since he became a
   manager, and Donald. Donald is isolatable. He's doing what
   he's always done. Sean is kind of outer-inner circle. Colin
   is on the ascendancy. He's always been about number 5. But
   Colin and I are fringe members of the inner circle. [18 Oct 83]

The rest of the members of the organization (that is,
everyone who was neither a director or an engineer/marketer) were
engaged primarily in 'protecting' this newly identified 'tech-
nical core'. They provided services such as administrative and
financial support. In an interesting inversion with this second
analysis, the members working on the avionics repair operations
are now seen as 'protecting' the technical core of managers so
that they could get on with their primary job of generating
convincing evidence of organizational viability. In the previous
analysis, the engineer/marketers and planning staff (all managers
and senior managers) were seen to protect the technical core of
'doers'; now the roles have reversed. The 'doers' generate a
profit to support the engineer/marketers and the planners as they
continued in their essentially evangelical role.

6.4.3 The Role of S-3.

In the first Model 1 analysis, S-3 was seen to serve a func-
tion in the potential productive process of DAE. It was a set of
offices, a storefront, and an expansible shop floor for future
assembly and production. S-3 was superceeded, in the quest for
profitable growth, by an acquisition which offered all of these
aspects plus a set of contacts and contracts and a large extant
work force.

In this second analysis, the 'role' of S-3 has changed
dramatically. Prior to the public announcement of the acquisi-

tion, S-3 was not simply a building under construction and a set of plans. It was a public, easily emphasized affirmation of corporate dedication and a convincing piece of evidence of future viability. Specifically, S-3 was evidence of firm (though never consummated) financial commitment by the parent company. Without an S-3 it would have been impossible to perceive of or portray DAE as a future independent, indigenous contributor to the British defence industry. The parent company might have been seen as _exploring_ the British market, but not as _committed to_ the British market. Neither the potential customers nor the members of DAE could believe the future picture without a strong piece of evidence. S-3 was such evidence.

Seen in this light, the vast amount of effort put into S-3 is quite sensible. It was an important piece of evidence which was refined, adapted, and presented. The fact that S-3 was not simply a building but was a 'showcase', is sensible. S-3 was actually a major aspect of the 'required output' of the organization. To the parent company, plans justifying S-3 were a format for sending the message, 'If DAE continues, we shall fill S-3 with the following _type_ of activity and make these levels of profit.' To the market, S-3 said, 'DAE is assured of a strong and long-term commitment from a very large and technologically sophisticated parent company.'

It is not surprising therefore that the floor plans shifted so frequently. First, S-3 was to be filled for a major contract with an airframe manufacturer. When that contract did not materialize, the evidence generating technology developed convincing plans for a large contract with the Royal Navy, which also never came to fruition. Seen in this light however, it can be argued that the specific project to fill the building was never impor-

tant. Rather, the critical aspect of S-3 was the justification. It was necessary during this period for DAE to be able to generate plausible plans that required filling nearly 20,000 square feet of office and shop floor. At the time, DAE did not have the personnel, the equipment, the contracts, or the building to actually accomplish any substantial contracts. The justification was enough to continue with the plans in terms of possible future use. S-3 plans were also important evidence for potential customers. The new building was a major, visible, and 'irrevocable' corporate commitment to develop DAE. Although the members could not bring customers to a factory, they could describe the new building in detail and, importantly, include the planned shop floor in contract proposals. It was proof of the future organizational status during a time when there was very little other proof.

This interpretation of S-3 also sheds light on another aspect of the ethnographic record. After S-3 was abandoned as the 'centre of DAE', there was continued interest in rebuilding the acquisition. There were 'leaks' to the local press concerning anticipated 'greenfield site' construction and many people discussed the requirement for new buildings. The acquisition had superseded S-3 as the most convincing evidence of future viability, but it was inadequate in one aspect where S-3 excelled. S-3 was to be a modern, well-designed showpiece of office technology both in physical layout and in equipment. Stavertons, in the words of one manager was a 'grotty, little, under-invested engineering shop' (21 Dec 83). Thus, while the acquisition was evidence of future viability, it was not in the proper 'image'. The established workforce, the contacts, and current contracts were all important pieces of the evidence, and in this, the

acquisition superseded S-3. However, in terms of the expressive nature of overall image, Stavertons was inadequate. Thus the desire to build 'quality buildings' was naturally transferred from S-3 to the acquisition.

The overall 'non-economic' role of S-3 (and subsequently, the acquisition) is expressed in the words of the managing director:

Bob: Part of my part of the bargain in taking people from secure companies is giving them a facility, a kind of background of stability. [Now] they'll be able to wrap the warmth of this 300-man company around them. [22 Sep 83]

Prior to the finalization of the acquisition, the members of DAE could 'wrap the warmth' of S-3 around themselves.

6.5 A REMINDER.

In this chapter, a 'functional' analysis in the form most common to organization theory has been presented. The organization has been abstracted as a set of criteria to which the human actors responded. The data have been presented in such a way that actions 'make sense' (that is, serve a function) in light of the abstracted criteria. Two presentations of DAE have been offered. In the first presentation, S-3 was a contingency investment which subsequent events showed to have become an error. When the managerial hierarchy realized this, they changed their investment plans. In the second presentation, S-3 was a 'symbol' which, when superseded by a more appropriate 'symbol', was abandoned. S-3 served different 'functions', depending on the presentation.

This analysis offers all of the 'benefits' and suffers all the 'weaknesses' of any functional analysis (Cancian 1968), some of which were made apparent in earlier chapters. This form of analysis is neat, allows coherent presentation of the data, and presents 'important' insight into the organization. More is

'known' about DAE after the analysis is presented than before.
Further, this Model 1 analysis is certainly based on 'reasonable'
assumptions. It is difficult to argue that DAE could have con-
tinued had the actors not been successful in discovering and
presenting evidence of future viability. Likewise, it is diffi-
cult to argue that the actors could have ignored financial crite-
ria such as return on investment. The weaknesses of Model 1
analysis are insidious. As a presentation of DAE, this analysis
is not patently 'false', but merely inadequate. This functional
analysis, by itself, leaves many aspects of research into the
organization unexplored.

Several questions are listed below which highlight some of
these unexplored areas. This list is certainly not comprehen-
sive. It only serves to exhibit the types of questions (both
'empirical' and 'theoretical') which remain.

A. What is the status of the managers? Model 1 relies upon a
managerial hierarchy to describe and explain the organization.
It assumes that, if the managers are not successful in satisfying
impersonal 'norms of rationality', either they will be replaced
or the organization will fail. Therefore, the individual charac-
teristics of the managers have not been needed to describe the
organization. Model 1 is founded upon a managerial hierarchy, but
essentially denies the importance of managers. They 'really'
have only two options: conform to the requirements of the situa-
tion or fail.

B. What is the status of uncertainty about S-3? S-3 has been
portrayed as a source of uncertainty. However, in the words and
deeds of the actors during the first part of this research, S-3
was one of the few certainties in DAE. Construction was proceed-
ing on schedule, equipment was being ordered, contract bids with

added floorspace were being written, office assignments were being negotiated, and members at all levels 'knew' that at the first of the year, the move would occur. The certainty and commitment which came prior to the uncertainty and confusion have been largely ignored.

C. **What is the status of the researcher?** In the analysis as presented, 'the researcher' has been an unobtrusive recorder of what occured and what was said. Assumption of such status does not have the benefit of a great deal of support. By asking qustions about S-3, interest in S-3 was certainly enhanced. By asking when the lease on current offices expired, this piece of information was marked as 'important'. By giving actors a forum to articulate their concerns, individual introspection was 'facilitated'. Model 1 analysis has portrayed the data as being discovered. However, they must have, at least partially, been created.

D. **What is the status of the actors' knowledge?** The actors' knowledge has simultaneously been taken at face value and made problematic. The first version of analysis was modified because it did not illuminate the 'actual' nature of DAE. It was re-placed by a portrayal of DAE as a process of evidence generation. The actors did not explicitly speak of this second framework; they spoke in terms of profit and production. Thus, in analysis, it was assumed that their actions were guided by some _implicit_ knowledge of what actions were 'actually' necessary for the organization to be successful. Much of the data to support this interpretation were their _explicit_ statements. Several versions of 'reality' are intertwined here. What the actors explicitly said and did (observed reality) pointed to the inadequacies of their stated 'norms of rationality' (actors' explicitly stated

reality). Thus a new set of 'norms of rationality' (the re-
searcher's abstracted reality) was created to interpret what the
actors said and did (observed reality). Analysis completes the
circle, returning to 'the data', which remain records of what the
actors said and did. The relationship between the actors' state-
ments and their knowledge is not clear and Model 1 does not
conveniently address this issue.

This list of questions, problems, and paradoxes could con-
tinue, but it is now sufficient for the present requirement.
These questions have not been offered to show that Model 1 analy-
sis is utterly without value and has been a waste of time. Nor
is it an introductory implication that Model 2 will solve all
such problems. It is merely necessary to offer this reminder
that we are not searching for and cannot hope to find the answer.
We are exploring a complex social situation with theories and
methods which must not be given too great a status.

CHAPTER 7

LEARNING THE ORGANIZATION: MODEL 2 ANALYSIS

> At the same time - and this point is basic to an understanding of the cultural role of symbolism - the evocation is never totally determined; there always remains to the individual a considerable degree of freedom; cultural symbolism focusses the attention of the members of a single society in the same direction, determines parallel evocational fields that are structured in the same way, but leaves the individual free to effect an evocation in them as he likes. Cultural symbolism creates a commonality of interest but not of opinions.

> (Sperber 1974, p 137)

> Returning to the theme which I am trying to elucidate - the general problem of the continuity of process and the discontinuity of the products of process - I will now consider how we might classify the answers to this general problem.

> (Bateson 1958, p 293)

7.1 INTRODUCTION.

Model 1 offers stereoptypes of social product. It assumes a coherence at the level of the collective and, in this, revolves around an implicit assumption that social actors 'share meanings'. This assumption has been exploited to present a panoramic description of DAE. Essentially, we have been exploring the question, 'What did the new building mean?' and through that exploration, a presentation of DAE has been offered. In this chapter, the statement 'S-3 (and DAE) meant different things to different people', must be taken seriously.

To pursue this line of analysis, we shall rely upon the ensemble of concepts and attitudes explicated in Model 2. In this set, it is no longer sensible to write of collective phenomena as though that level were unequivocally coherent. Model 2 leads only to a belief that there is a 'coherence of process'. That is, though S-3 'meant' many different things, the members of

DAE used the new building in similar ways as they communicated with one another and structured their perceptions. Here we shall follow this position to dissolve coherence at the organizational level in favour of a view of the members as self-monitoring, self-correcting performers in their social scene (Harre 1979, p 151).

S-3 has been a focus over the previous chapters for a variety of reasons. It has been argued that the new building was an important part of life in DAE because so much effort was expended on it. S-3 was also a convenient thread around which the discourse could be written. It is now possible to state another reason for focusing on the new building - S-3 was a 'non-event'[1]. The building was never the centre of DAE, no integrated information systems were installed, and the floorplans were abandoned. If we focused on an 'event' in DAE, then it would be tempting to use the position of the historian to continue searching for the 'real meaning'. For example, we could now apply retrospective knowledge to discuss what the acquisition has come to mean with the implication that this is a kind of benchmark. Focusing as we are on a 'non-event', such retreat into the historical perspective is not valid. S-3 was always an abstraction about which people communicated, acted, reacted, and 'knew' a great deal. Ultimately, S-3 was an abstraction which simply dissolved. There is less temptation to tell how the story ended than there is interest in how the story was told.

We are, therefore, in a position to analyse how the members of DAE might have used an abstraction, 'the new building', to learn about a small portion of their world. By developing and discussing S-3 plans and observing what others did and said in

1. Steinbruner (1974), a political scientist, also explores the analysis of a 'non-event' for reasons similar to those presented here.

relation to S-3, the members of DAE learned about such things as relationships, personal status, commitment, characteristics of the organization, capabilities of others, and about themselves. This chapter will present several 'episodes' which exemplify these processes.

It is necessary to list two changes in style of presentation before we continue. First, hitherto, there have been three distinct 'ranks' of human beings used to present the analyses: 'managers', whose words and actions were primarily used to exemplify the various descriptive positions; 'non-managers', who have been largely ignored; and 'researcher', who has been hidden in the background. Because of this categorization implicit in the conventions of Model 1 (and in 'scholarly' writing), it has been possible to write of DAE entirely in the past tense, the third person, and largely in the passive voice. With Model 2, I can no longer follow this convention. There is only one 'rank' for all members of DAE - sophisticated learning creature. We are all people and this will be continually emphasized in the discourse. Second, in the previous chapters, the presentation of DAE has been 'panoramic' and 'coherent'. The entire year and the entire organization have been discussed. I can no longer offer this type of global presentation. I was not present at all of the activities of all of the members for all of the year. I did not have access to all of their thoughts. Further, I did not always ask the 'right' questions, the other members did not always answer the questions I intended, and I did not always understand their answers. I did ask many questions and observe many events, but there were always more questions and more events that I could have pursued. Therefore, in this chapter, I cannot attempt to directly portray 'the organization'. I shall instead apply Model

2 by offering a series of 'episodes' which exemplify how the members used S-3 to talk about and learn about the organization. I shall follow Bateson and assume that my data are records of individuals reacting to the reactions of other individuals.

It may seem that this chapter is no longer 'about DAE'. However, in a sense, the focus is the same. The shift here is one of assumed observational stance. In previous chapters, DAE was presented through the eyes of 'the researcher'. In this chapter, I shall present DAE through the eyes of a human being interacting with other human beings. This style of presentation may seem fragmented and incomplete, even 'conversational', in comparison to the tidy functional analysis in Chapter Six. I remind the reader that the earlier panoramic, 'coherent' analysis was not without problems of its own. The episodes that I present below portray the equivocal nature of the social world and the subtlety that human beings bring to the field of interaction. Following Daft and Wiginton (1979), the language that I use to present such subtlety must also be subtle or, as Pacanowsky (1983, p 261) writes, 'organizational nuances are best hinted at'.

7.2 SIX EPISODES.

I will present six 'episodes' culled from the ethnographic record. In each of these episodes, I will focus on an individual reacting and learning in his or her social field. These episodes are not offered as 'proof' that Model 2 processes were actually 'going on' in the members' minds. Rather, they are offered to demonstrate how I use Model 2 to make sense of the data. I will not attempt to state unequivocally what the members 'actually' thought or believed. All I can do is report events and utter-

ances, commentaries on those events and utterances, and various, critically examined interpretations (Harre and Secord 1972, p 101). At first glance, it may appear that this leads to a never-ending spiral of interpretations of interpretations which must pose insurmountable philosophical difficulties. Indeed, this is true and I do not imply that I have overcome such problems. However, at the same time, this is merely a report of ordinary, extremely 'simple', everyday occurrences. By Model 2 assumptions, I believe that human beings deal constantly with equivocations and multiple interpretations.

Each of the episodes hearkens back to dialogues which have been introduced (as unequivocal) in earlier chapters. Here, the artificially closed interpretation offered previously is re-opened. In each episode, I will present dialogue, various interpretations offered by DAE members, and my own interpretations and analysis. Several of the episodes have been selected precisely because the members' interpretation differs from mine. In this way, I will leave the interpretive spiral open through the 'end'. With Model 2, I focus on human beings as 'learning creatures'; I do not focus on closed 'lessons learned'.

The episodes fit together, not by the coherent picture they portray, but in the multiple views of the 'same' events that they report. Each proceeds from the previous ones either conceptually or 'empirically'. In the earlier episodes, I will develop and apply the Model 2 concepts of levels of learning and communication. In the later episodes, I shall extend this view of human learning and communication through 'schismogenesis' to discuss 'manager-subordinate' role differentiating interaction.

I have adopted two conventions to present these episodes which I must list. First, I use brackets within the text to

demarcate either summary statements, textual descriptions, or my own interpretive thoughts about the dialogue. Thus, in the discourse, 'I' am revealed at three levels: I am in the dialogue conversing with members of DAE; I am in brackets thinking about and commenting on the dialogue; I am in the present analysis discussing the entire episode. Second, I emphasize certain words and phrases by underline. Except where specifically indicated, these underlines indicate my emphasis and not that of the speaker.

Episode A: 'Probing' DAE.

The subject of this episode is an 'S-3 meeting' at which a member of the newly acquired Stavertons (Gareth) happened to be present. He knew almost nothing about DAE except that he was now, suddenly a 'member by acquisition'. At this meeting, he probed the new situation. I limit the actual dialogue quoted to exchanges in which he participated.

The meeting (held on 13 October) was 'designed' primarily for the members of DAE to discuss the effect of S-3 on the organization. It was one of a series of periodic sessions held by the Director of Business Development to 'get the word out' to the people in DAE who officially reported to him. At the time, the meeting was considered a forum to discuss the approaching move to S-3 along with a variety of other topics which might be important to the members. The planned agenda included, in addition to S-3, the effect that the acquisition would have on the individuals present, the current financial status of DAE, and various other 'housekeeping' details. (This meeting was prior to the 'no S-3 meeting'.)

The meeting had been scheduled for several weeks and was to

include all of the members of DAE who worked on the seventh floor of Westgate house and me. There were 9 regular attendants seated around the conference table. By coincidence, there were also several 'visitors' present. A European director from the parent company was at DAE for the planning presentation which occured immediately after this meeting. Two men from Stavertons, who spent the morning in meetings with various business area managers, were at DAE for the first time. This episode focuses on one of the Stavertons vistors who did virtually all of the talking for the two.

> [The meeting begins at 14.15. Nigel is chairing the meeting and he is following minutes from a previous meeting held over a month ago. Nigel introduces all of the guests. After he has introduced the Stavertons visitors, he mentions that, in addition to S-3, this meeting will serve to discuss how the acquisition will affect the members present. He stresses that this meeting is primarily for the staff of DAE.

Nigel:...[Stavertons] and how that's going to affect people. I hope that everyone knows a bit about how it will affect them as individuals and how it will affect them as part of the company. I hope that all will be able to see it as beneficial for the company and at least mostly beneficial for them as individuals.

> [At this point, the verbal exchanges immediately slip into a conversation between the two Stavertons visitors and Nigel. They are discussing the fact that the managing director from DAE and the old directors from Stavertons have gone on a tour of the parent company in America and nobody has seen any of them for several weeks. This, coupled with the 'walk softly' policy which has kept all DAE people away from Stavertons, has meant that after the signing ceremony, the members of Stavertons have been left assuming that changes would come, but with no method of finding out what those changes might be.]

Gareth: Well, it's a bad time for Bob [DAE managing director] to say nothing.

Nigel: It was, I'll admit a bad time for Trevor [the old Stavertons managing director] to disappear off to the States. We'll be having a big meeting off-site on the 21st of November to introduce all of the Stavertons people to the DAE people. Bob wants to control the number of people coming down to Wiltshire so as to not upset everybody there.

Gareth: I think the people down there are interested in being informed now. I know that Bob is interested in controlling the flow, but we mostly know that it can't be as before. Before the merger, we worked up an operations plan. Then Bob changed

it and now your financial director is changing it again.

Nigel: Can we defer that? This is really the kind of thing that we should talk about on the 21st. Right now, we have lots of other business to attend to. [Nigel glances at the notes before him and then looks around at the rest of the people at the meeting.] Does anyone have any uncertainty?

Gareth: Well, speaking for me - we're not at all certain. [laughs]

[A DAE member who has told me that he is worried about moving to Wiltshire asks a question and the discussion moves fairly quickly to S-3.]

[By this point a complex communicative pattern is established. Nigel is 'on-stage' in several ways. First, the European director is present. I have been with them both since the morning and I am aware that Nigel is conscious of his status in relation to this man. He has told me that he is 'testing the waters'. Second, Nigel also has to contend with the visitors from Stavertons, who for possibly very good reasons, are disrupting his agenda. Finally, Nigel has already told me that he is concerned that the members of DAE are worried about how S-3 and the acquisition will affect them. I am glad I am not chairing this meeting.]

However, this episode focuses on Gareth and I see him complete a clear meta-communicative attempt. He has 'told' Nigel several things that his words did not directly contain: (1) I do not know very much about what is going on with my company. (2) I have not had any opportunity to discover aspects of DAE that I consider critical. (3) This meeting is my first opportunity to probe the situation and I would like to pursue it. To send this 'meta-communication', Gareth has questioned specific aspects of the company and how the 'merger' is being handled.

[The meeting topic continues to be S-3 for several minutes.]

Margaret:...Will it be offices or open?

John: [To Margaret]: It's going to be both.

Nigel: It's only been decided in the past two days. Those with offices will have floor to ceiling walls with full glass fronts. So there's privacy of sound, but no privacy when you have your feet up.

Gareth: Is it likely to be done this way at Stavertons? I mean, are these the kind of office changes we can expect down there?

Nigel: Well, it sets a standard, I suppose, but if it's a pre-
    cedent, I don't know. [turns to John] The S-3 working group
    should be reconstituted. The management decisions have been
    made so now [the working group] have a charter.

    [The conversation continues about S-3 and the working group
    until 14.55.]

Nigel: Has everyone seen how we're doing? Have the August
    figures been around?...I nominated Donald for the Winner's Club
    this month and the President's Club.

Gareth: What's the President's Club?

    [For nearly ten minutes, Nigel and the visiting European direc-
    tor describe the various parent company honourary clubs.
    Donald has been nominated for his outstanding work in develop-
    ing a new market, the British avionics market. If his nomina-
    tion is approved, he will attend a week long 'international
    winner's meeting' at a resort in the West Indies. After
    describing this and various other parent company 'honours',
    Nigel goes back to the agenda and describes the capital invest-
    ment programme for S-3.]

Gareth: Where does the investment [for S-3] come from?

    [Nigel explains the parent company investment structure. The
    European director joins in. As the topic closes off, Nigel
    returns to the agenda and S-3. For the next ten minutes, Nigel
    answers specific questions asked by the DAE members about S-3,
    the proposed office automation system, and the office layout in
    S-3. During a lull in this discussion:

Gareth: So you have meetings like this? Is it a [parent com-
    pany] policy or do you just do it? It obviously includes all
    the staff, which is a fairly interesting approach. Will we be
    doing it at Stavertons?

Nigel: [He seems a bit taken back.] Ah, I don't know if it's a
    company policy. We just kind of do it. [pause] You ought to
    have a total employee meeting yearly or every six months...We
    have a yearly meeting like that. Communication is seen to be a
    real thing in [this company].

Gareth: Are there regular communications within [the parent com-
    pany] to keep our engineers apprised of what's going on?

[The European Director]: Yes, lots.

Gareth: Well that's good. Frankly, one of our weaknesses is that
    we don't have much ongoing training.

Nigel: Well, I think that big companies tend to do that more.

Fiona [Nigel's secretary and compiler of the minutes - breaking
    in]: Nigel, did you want to go into any staff changes?

Nigel: I'm not sure that I can.

[Two important side notes: (1) Fiona has told me that she wants to know if Nigel will be moving to Wiltshire. If he does, then it means that she will have to find a job with someone else who remains in Berkshire. Thusfar, she says, Nigel will not 'admit' to her that he is moving. (2) Nigel has told me that the organization chart and the new 'structure' are in a state of flux. They are being negotiated probably right now by the directors who are in America. He said that he does not want to make anything public until it is at least a little firmer.]

Fiona: But you showed me that sheet [with the latest version of the organization chart].

Nigel: Oh sorry, it was the structure that's been going around. Well, this isn't really the place to discuss that. It's very far from final.

[I suspect that what he would like to say is, 'I do not know how much these Stavertons visitors know and I do not want to preempt the Managing Director, so please drop the subject.' This is, of course, a second level message that I create from my prior knowledge of Nigel's position.]

Gareth: [Seems to pick up the cue] Oh, we've seen that structure. It will have to be fine-tuned, but there's a certain logic behind it. Will the final decision be made from above or will we actually sit around like this and thrash it out?

Nigel: My personal opinion is that I think it'll be a management decision which will be made between Bob and Trevor.

[Nigel excuses himself to go to the planning presentation. The meeting is adjourned quickly and everyone disperses.]

[Note the equivocality. Was Nigel discussing S-3 or was he presenting himself and his organization to various 'outsiders' or was he generally attempting to 'get the word out' to 'his' people to calm them? Fiona uttered words about 'staff changes', but what did she 'intend' to mean? Gareth asked about office layout, the President's Club, investment procedures for S-3, meetings in DAE and the parent company, and decision making processes. But what was he asking about?]

Gareth began the sequence with a clear statement that he wanted knowledge. He continued with specific questions about the physical layout of S-3, the honourary clubs in the parent company, the investment procedures, and meetings. Several times he specifically announced the meta-communicative nature of his questions. That is, he asked about details and specifically whether or not he could assume that these details reflected data which he could generalize. 'Will we do it this way at Stavertons?' This

question was 'present' even when he did not speak the words. Each of his questions can be interpreted at one level (e.g., 'about S-3') and a second level (e.g., 'about DAE'). Gareth offers clear indications that his prime concern is the second (and often not explicitly stated) level of his questions. In general then, for Gareth, this meeting was 'framed' at a higher level of abstraction than 'about S-3'. This meeting and the words that were spoken there were seen in a frame which might be called 'finding out about the new organization'.

It is necessary to point out how much 'prior knowledge', I required to interpret the words from various frames. I could assume, with some confidence, what Nigel and Fiona were hearing and saying primarily because I had spent so many hours with them discussing their views. Nigel told me of his desire to communicate details with members of the DAE staff and Fiona had told me about her problems concerning whom she might work for. In this episode, I have not presented any 'accounts' from after the meeting. Gareth went back to Wiltshire immediately after the meeting and since I too was under the 'walk-softly' restriction, I did not follow him. I shall present episodes below where the members' post facto accounts are presented. However, here it is important to point out that, in interpreting other people's words, prior accounts are also required.

Episode B: DAE from 'outside'.

This episode focuses on an interview with a holding company staff manager (James) and how he used S-3 related activities to learn about DAE. However, it is also about two, now familiar, directors of DAE, Bob and Nigel, and how they spoke about various parts of the new building. Three aspects of 'S-3' are important

to this episode: the building itself, the computer systems, and building security. All of these sub-projects were part of the general project I have labelled 'S-3'. This episode hinges on the meaning of the word 'security'.

From the first meeting in my research, I detected a slight variance of view between Bob and Nigel in relation to security and computers in S-3. It is important to point out that this introduction is a summary of my interpretation of their words and not a simple replication of what they said. For example, neither ever said, 'This is what I mean when I use the word security.' Also, I never heard them disagree about what they meant. 'Security' was, for each, a subset of a sub-project of a project which was not the most pressing of a long list of other projects. In the exchanges between Bob and Nigel which I observed, they did not discuss 'security' directly or often. I have no doubt that, had they been interested, they could have worked out a more 'shared' position. However, after several months of interviewing these men and observing them perform in meetings about S-3, I came to 'know' that they did not 'mean' the same thing with the word 'security' from the way in which they characteristically spoke about S-3. To follow this interpretation, it is necessary to begin with a discussion of computers in S-3.

Bob discussed the possible computer applications primarily in relation to 'office automation and data processing'. He consistently stressed a requirement to 'get numbers that we don't have' (21 June 83). In two interviews and three meetings in which I observed him perform, from June through August, I heard him state that 'for his fourpence' his priorities were such computer software packages as order processing, inventory control, technical data bases, and word processing. His stated objective was to

install systems of financial and technical control to aid in management of the business while it was small that would not require major overhaul as DAE became larger. In a general sense, he saw an opportunity to install a set of computer systems to 'manage a business'. In this way, his proposed applications were not unique to DAE. Therefore, he could and did argue that the computer installation for S-3 should be seen as a 'prototype for the parent company'. Presumably, the installation of computer systems for DAE would yield useful lessons for other businesses. Therefore, his stated strategy for the coming year included three steps: writing the specification for the office automation/data processing system, selling the project to the board (both as necessary to manage DAE and as a prototype), and implementing the design (6 June 83).

On the other hand, when Nigel discussed computers for S-3 he nearly always stressed 'big number crunching' (6 June 83). By this, he referred to a requirement for computers and personnel to engage in analysis contracts with MoD (such as, system effectiveness analyses and wargame simulations). The hardware and software required for such application is substantially different from systems of office automation and is generally not applicable to other types of businesses. Only firms engaged in scientific analyses in the defence arena would be interested in this type of system. Therefore, such a computer application for S-3 could not be considered a 'prototype for the parent company'. Thus, Nigel described his basic strategy for funding, not in terms of 'selling the board', but rather in terms of including hardware costs in contract bids (hence funded by the customer) and 'in-house' software development (6 June 83, 10 June 83). Bob and Nigel recognized and stated that both managerial control and

'scientific' applications were necessary functions for the computer systems, but in general, when they spoke about 'computers for S-3', this divergence of emphasis held.

Given this variance, an ambiguity arose in the usage of the word 'security'. Security could refer to S-3 generally. That is it could refer to such factors as general business and warehouse security, stores protection, and visitor access control. In general, when Bob spoke of 'security', this was his implication. However, 'security' can also refer to the Officical Secrets Act and MoD requirements for work on classified projects. This usage refers to document protection, extremely restrictive access control, specific and extensive technical limitations on computer hardware, and even periodic inspections for possible listening devices. When Nigel used the word 'security', this was his usual connotation.

Thus, by the time this epsiode occurred, I had formed the strong impression that Bob was interested in 'controlling' DAE presently and in the future, while Nigel was interested in attaining a specific category of contracts. For Bob, I inferred that S-3 was a general category of growth objectives and for Nigel it was a specific place to do specific things[1]. Early in in the research, I recognized a general ambiguity in the entire situation of DAE, thus the fact that these two members emphasized different aspects of the new building did not seem extraordinary. Further, it seemed to me that both views of S-3 (as well as computers and security) were important and valid. Given the 'knowledge' that Bob was the Managing Director (hence generally responsible) and Nigel was the Director of Business Development

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1. This is a simplification since S-3 was many other things to both members. This simplification is offered only in relationship to this episode.

(hence specifically responsible), this variance in emphasis seemed, to me, to be perfectly understandable. To others, with a different set of experiences, this interpretation was not obvious. This episode is about a person who disagreed with me.

On 19 August, I interviewed a manager from the holding company staff (James) who was working closely with DAE (primarily through Bob and Nigel) in preparation for the up-coming move. James, as an 'outsider', did not know that the acquisition was nearly consummated. Much of the interview covered specific technical details of building security systems. These excerpts are James's comments general to DAE. The interview lasted approximately one hour.

Mike: What is your relationship to the S-3 move?

James: I'm concerned with security and health and safety. Making sure that when DAE move to S-3, we have the right information to be sure that S-3 is secure...DAE is fairly new, but it's been treated as part of something else. Now it's being treated as a division on its own merits. The thing that worries me is how long is S-3 going to be large enough? If growth is going to be so fast, then S-3 can't be large enough. In about 18 months or 2 years [they'll have to move again.]...The difficulty with S-3 is a lack of togetherness. It appears so anyway. I'm trying to make the building secure with what they think will be MoD requirements. But the powers that be [in DAE] don't coordinate. I don't know whether Nigel or Bob is the most experienced [in security requirements].

Mike: Surely MoD requirements are routine?

James: It all depends on what level of sensitivity you're dealing with. In some ways they're [DAE] paranoid. It depends greatly on the type of equipment installed and right now we're not sure what level of security we'll need. Until that's known, we won't know the level of security required.

[We spend several minutes discussing various security devices including alarm systems, window blinds, detection beams, and sound and motion detectors.]

James: [I have] been interested mainly in getting the exterior of the building secure. Mostly because I don't know the level of MoD security required. [pause] If you look at S-3, there isn't much room for DAE. As far as I'm concerned it's [S-3] permanent. But for DAE, it's got to be a temporary thing. They could be moving. It all depends on how the contracts go...Bob tends to look at the longer term - it's a temporary

location _for any sensitive_ DAE _operations. Nigel tends to look at a shorter term. He'd like to make it a fortress..._[But] we'll have an acquisition. It's inevitable. We're [the parent company] getting very good at it these days. And then DAE will have to move again.

[We discuss more technicalities of security systems.]

James: Previous to the coming of Bob Gregory, we had a few Americans and that was all of DAE. Now there's the coming of DAE and it's becoming more U.K. dominated. It should be an exciting year [for your research.] [But] _those DAE guys are known_ [by people in the corporation] _to be kind of cowboys._ They live out of suitcases. They come and go. They take a crisis, solve it, and then wait for the next crisis. _They appear to not have a system._ [pause] _I don't know. They're just different._ [19 Aug 83]

Thus my learning 2 was challenged. I had come to see DAE in positive terms as a group of individuals working in a very ambiguous situation. As I came to know the individuals more closely, I came to realize the various connotations that each one offered in their words. I had become suspicious of the expectation that 'meaning' was shared and, for me, sorting the possible confusion from various equivocal utterances had become a way of life.

James's experience, similar to mine but not identical, resulted in different interpretations. From his accounts, his opinion of DAE as an organization is somewhat less than positive. He learned that DAE is unsystematic, cowboyish, and that the two 'top' managers seem not to talk to one another. His view of the whole of DAE is that the organization is 'different' and somehow just not quite right. Certainly, his work on S-3 was not the only source of data that James had concerning DAE. He also dealt with the members of DAE on other projects, discussed DAE with other members of the firm, and heard what other people were saying. It is impossible to tell exactly how his views about DAE originated. All that can be said is that S-3 was part of how James gathered data about DAE. It was also part of how he interpreted the data he had gathered. In Model 2 terms, S-3 was part

of James's learning 1 (What level of security do 'they' require?) and his learning 2 (What kind of an organization is DAE?)

The various levels of disagreement between James's views and mine are instructive. In many ways, James and I agreed. We both saw that Bob and Nigel did not seem to use the words 'S-3', 'computer systems', and 'security' to mean the same thing. We both noticed that because of this ambiguity, confusion could and frequently did arise. Thus, we did not disagree about what we saw; we disagreed about what it meant. For James, evidently, organizations such as DAE should be managed by people who speak with one voice, who coordinate on details of projects, and have some 'systematic' method of dealing with crises. For my part, I was intrigued with DAE precisely because the members seemed to manage without such over-riding consistency.

There are two final aspects of this interview that I want to point out. First, it demonstrates the multiple levels of sensitivity required in ethnographic research. Looking over the notes from this interview the following day, I realized that this type of research was not primarily concerned with developing my learning 2 schema for interpretation. Nor was it primarily concerned with repressing the impact of my learning 2 (which appeared to be inevitable in any case). Rather, I came to see the ethnographic method as primarily concerned with developing my ability to appreciate other people's learning 2 in light of my own learning 2. I suspect that this is what Bateson labels learning 3.

Second, it was this interview that first sparked doubts in my own r... about S-3. Nearly two months prior to the 'no S-3 meeting', I began to doubt that DAE would ever actually move into the new building. James he... convincingly argued that the size of S-3 did not match the aspirations that I heard the members of DAE

stating. Further, his interpretation of Bob's 'long-term' view caused me to re-evaluate exactly what a ten-year view of DAE might imply. When I looked at 'DAE' in that way, S-3 seemed relatively unimportant.

Episode C: DAE from 'inside'.

In this episode, I shall present data to describe how an engineer/marketer (Simon Powell-Jones) learned about the organization through S-3. It is the middle part of a story which spans nearly a year and a half and highlights briefly an individual coming to work at DAE, becoming disenchanted, and finally leaving the organization. In basic overview, Simon came to feel betrayed by the senior managers of DAE because he was transferred from Berkshire to Wiltshire. By the later part of the research, he was a bitter man. Thus, his words paint a very negative picture of the organization. I am interested not only in the resultant picture of the organization (which is certainly important to understanding DAE), but also in exhibiting how the picture is drawn.

Simon was one of six people in the initial exodus to Wiltshire and (in grossly simplified terms) because of this, he came to learn that the managers in DAE behaved arbitrarily and, in some ways, dishonestly. He felt betrayed. Several of the others who moved to Wiltshire expressed the same view and several expressed the opposite. That is, some were disappointed because they did not move into S-3, while others would have been disappointed if they had. The processes which all of their words demonstrate are similar and, indeed, many of the others offered interpretations nearly identical to Simon's. Most of the six, at one time or another, told me that they were disenchanted and were

looking for another job. However, of the six, Simon is the only one who actually left the company. Thus, with Simon, I am freed from some of the constraints I incurred by my commitment to personal confidentiality. That he was looking for other work is no longer privileged information.

Simon, a former Naval officer in his mid-thirties, came to work at DAE in May 1983 (one month prior to both my entry to the company and the start of negotiations with Stavertons). He had previously worked for a large, British defence firm. From his previous job, he knew several other people who were now working for DAE. For a variety of reasons, though I knew of him and we had been introduced, I did not interview him for the first four months of my research. We exchanged pleasantries and spoke briefly at 'social' events, but I did not begin recording his words in earnest until 5 October. As soon as I realized that he would be moving to the Wiltshire site, I stopped by to ask for an appointment. We chat briefly:

Mike: So when will you move?

Simon: Well, I'm hoping it's in months, but Bob [managing director] seems to think it's in weeks. [pause] I'm not moving house. [pause] My wife is a teacher and jobs are so hard to get that she'd never be able to find one in Wiltshire. So I'll commute. I reckon it'll be about an hour and a quarter each way. Maybe I'll commute weekends. [pause] Or maybe I'll leave the company. [5 Oct 83 - close paraphrase recorded approximately 3 minutes later]

I was startled. This was the first time anyone in DAE told me that they might leave the company. Several other people mentioned it (in various degrees of 'seriousness') over the next few months, but this first statement shocked me into realizing that attaining the acquisition (a major company objective) was not 'good' from all points of view.

Two days later, Simon and I met in his partially enclosed

office for an interview session. We discussed many topics including the new organization chart, Simon's new role, the other people in the organization, and Stavertons. His knowledge of Stavertons was hearsay because, like me, he had not yet been to the newly acquired company. At the end of the interview, I closed my notebook and put my pencil away. Simon lowered his voice and looked around the area.

Simon: If I had known this [move to Wiltshire] would be a possibility, I wouldn't have taken this job. They certainly didn't let me know about Stavertons when I came in to interview. [7 Oct 83 - recorded approximately 5 minutes later.]

This statement about his hiring interview[1] reveals much about Simon's learning 2. He reflects a belief that 'they' (two 'directors' and one 'manager') should have told him about Stavertons when he interviewed for the job. 'They', in this case, refers to the 'formal' managerial hierarchy to which Simon reports. Thus, Simon reflects not only a belief that the managerial hierarchy exists (calling it 'they'), but that the members of that hierarchy know certain things and could (even should) have told him about them during the interview. From my learning 2, I know that 'they' did not 'know' about Stavertons at that time. Simon had been working at DAE for over a month prior to the first negotiations with Stavertons and over four months before the acquisition was consummated. However, from Simon's point of view, 'they' occupied a special role. 'They' are 'managers' and it is their job to know. If they do not know, then they are not competent managers; if they do not tell what they know, then they must have a reason. In either case, Simon decided, these were not the kind of 'managers' with whom he would

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1. In Chapter Six, pages 194 and 195, I have presented dialogue by Bob and Colin about their experience with interviews. They describe, from both sides of the desk, the equivocality they experienced in hiring interviews in DAE.

be happy working.

Simon continued to express this view in later interviews and offered data to support his position:

Simon: When I first came to DAE, we were going to take that [proposed Naval contract] on in the new building. But there was a lot of resistance in the civil service to giving up work. So as far as I know, it was stillborn.

Mike: So what is your relationship to that whole programme now?

Simon: [We're monitoring it and] that will continue. It might still happen, but it probably won't. If nothing else, it would have kept me in [Berkshire]...When they took me on, we were going to be putting [that contract] in S-3, but it's all falling down around our ears.

[Simon reaches into his desk, takes out the contract proposal we have been discussing, and shows it to me. It is an extremely smart and complete looking document which includes various renditions of the proposed facilities in S-3.]

Mike: And why did this contract not happen?

Simon: Again, the people doing the job are civil servants. They lobbied their boss, the union lobbied the ministry, and there was no contract. That [points to the contract proposal] was what I came [to DAE] to do. It's a bit disappointing. [22 Nov 83]

Simon reiterated this theme at the Christmas party during a quiet discussion with two of the other people who had moved offices down to Wiltshire and me.

Mike: So how are things down in Wiltshire?

Simon: It's the kind of grotty, old, under-invested engineering shop that you'd expect it to be. One of the reasons I joined [the parent company] was to get away from this. [21 Dec 83 - recorded approximately 3 minutes later]

My final extended interview with Simon took place (on 19 January 1984, in Wiltshire) after he had been working at Stavertons for nearly one month. During the interview, we discussed many topics including the impact that the DAE members were having on Stavertons, the general restructuring of jobs, and several possible contracts. Throughout the interview, Simon was quite critical of the managers to whom he reported and expressed

general pessimism about business opportunities and his own role

in the company. By this time, he was quite open in stating that

the senior managers of DAE were willing and able to be arbitrary,

even deceitful, in their decisions. One statement, explicitly

dealing with S-3, is particularly telling.

Simon: In [the parent company] there appears to be a lot of
   cooperation. But remember all those meetings we had about
   open-plan/closed-plan [offices in S-3]? Bob asked everyone's
   opinion and we all said that we wanted [private] offices. Then
   he came back and said, 'No, it would have to be open plan.' It
   would have been better if he would have just said at the start
   that, 'I'm sorry, but we don't have the money to give people
   offices, so I've made the decision to have open-plan.' But we
   had meetings and discussed it at length as though it were a
   real question. [19 Jan 84]

   [Notes: (1) The last version of the proposed floor plans (13
   Sept 83) for S-3 showed a combination of open and private
   offices. Simon was not listed for a private office. I do not
   know if he saw this floor plan. (2) Four other members of DAE
   also mentioned the open-plan/closed-plan 'discussions' and
   stated similar interpretations.

Much (though naturally not all) of what Simon had 'learned'

about DAE revolves around S-3 as well as his previous general

learning 2 schemata. He had joined the parent company (it is, I

think, significant that he did not say that he joined DAE), a

large, well-invested, modern company to get away from a grotty,

old, under-invested one. The managers who interviewed him im-

plied that a Naval contract was likely when they should have

known that it was unlikely. DAE, as presented to him, reflected

the parent company's status because it was to move into a nice,

new building in Berkshire. Simon believed that the managers of

DAE could rightly have been expected to know that this would not

happen and that they should have told him about this in his

interview. In short, the managers misrepresented the situation,

or more bluntly, they lied. Thus, Simon not only found himself

working in a job he neither applied for nor wanted, but he had

also learned that the managers of DAE could not be trusted. For

him, S-3 (or more precisely 'no S-3') meant that he had been betrayed by conscious actors who could have chosen not to betray him.

Clearly, one could question whether Simon 'really' believed these things. His words could reflect his knowledge and beliefs or they could 'simply' be artificially constructed, self-presentations which he offered to me. To know if Simon 'really' believed what he was saying or 'really' only wanted me to believe that he believed it or 'really' was acting out some form of subconscious rationalization, would require that somehow I come to know his mind even better than he knows it himself. Under Model 2, I cannot do that. However, I can, with some confidence, infer from these exchanges some of Simon's schemata. He 'knew' that this was an appropriate way to speak to me. In Simon's usage, 'managers' can generally be spoken of as though they exist in a hierarchical 'controlling' pattern very similar to Model 1 views. Further, the 'managers' of DAE, in particular, can be spoken about as though they are deceitful or incompetent or both. These types of views are consistent with his general view that he was dissatisfied with DAE and that he wanted out. Clearly, I do not know (and have no interest in 'discovering') whether Simon first learned that the managers were deceitful and this led to his general dissatisfaction or whether the reverse is 'true'. Under Model 2 assumptions, I believe that both levels of abstraction are characteristic of Simon's learning 2 and that each fed the other in some 'causal loop'.

Therefore, again, it is important to note that my interpretation of the organization is different from Simon's. In my discussions with the three managers who 'misrepresented' DAE to Simon, I recorded their stated confusion and apprehension at the

unfolding situation. Each one acted and spoke as though DAE
would move into S-3 at least until late September. All three, at
one time or another, expressed surprise that DAE had moved away
from S-3. Indeed, one of them even told me that he felt mildly
'betrayed' by the other two himself. In my learning 2, 'man-
agers' are 'simply' human beings. Apparently, in Simon's learn-
ing 2, 'managers' are part of a 'managerial hierarchy'. In the
next episode, I will look more closely at one of these 'man-
agers'.

Episode D: A 'manager'.

I have consistently written that members of DAE at all
'levels' perceived uncertainty and confusion about S-3. In using
this type of language, I have implied that 'levels' exist. That
is, I have implied that the members of DAE can be divided into
roughly three categories: senior managers (or directors), man-
agers, and non-managers. My use of these labels has derived from
two sources. First, clearly Model 1 is an explicit, conventional
statement of organization theory which is based on such 'levels'.
Second, and of importance to Model 2 analysis, the members of DAE
themselves used these and similar labels (such as, 'chiefs',
'indians', 'the people', 'them', 'us', and 'corporate fathers')
to describe the organization. In the remaining episodes, I will
discuss the problematic nature of these 'levels' by treating them
as social constructions. To facilitate this analysis, I will
apply the concept 'schismogenesis' and treat 'manager' and 'sub-
ordinate' not as categories of people, but as descriptive state-
ments about types of behaviour. I will continue to assume that
people are sophisticated learning creatures capable of engaging
in communication at many abstract levels.

Under Model 2, I assume that people are sophisticated, self-monitoring actors, who actively perceive their social milieu and assign 'meaning' to the various aspects of that milieu which they deem important. People perceive the actions of others, the current situational 'states', and a multitude of future possibilities. Ultimately, they interpret all of these into 'meaning'. This 'meaning' is a complex web of abstractions at various levels which fit together, for the individual, as a (perhaps not necessarily consistent) 'whole'. In challenging the assumptions and conclusions of Model 1, I have implied that members of 'the managerial hierarchy' in DAE could not easily be seen as capable of directly reducing the other members' uncertainty. That is, 'managers' occupy a problematic role as 'members' both of an assumed transcendent control hierarchy and the human species. In Model 1, the managerial hierarchy was stressed, but in Model 2, I am stressing the sophisticated, self-monitoring human being.

In this episode, I will quote heavily from an interview I conducted with a 'director' (Nigel) four days after the 'no S-3 meeting'. In this interview, I noticed a constant interplay between Nigel's self-presentation as 'director' (e.g., his stated concern for those 'below' him and his 'business oriented' language) and his role as 'sophisticated learner' (e.g., his stated concern for himself, his multiple interpretations and reinterpretations of other people's words and actions, and his various descriptive accounts). As I reread the notes over the following months, Model 1 'manager', Model 1 'subordinate', and Model 2 'learner' flickered on and off, constantly replacing one another.

Nigel retired from an aviation career in the Royal Navy in the early 1970's. Since that time, he has lived in eleven places

including two locations in the United States. We have often
shared the joke that he quit the Navy to attain the domestic
stability of civilian life only to move more frequently. He came
to DAE as Director of Business Development in 1981 after working
with several aerospace companies. As a director, he was in the
second 'tier' of the organization, immediately 'subordinate' to
the Managing Director. He had purchased a large, old, country
home in Berkshire only a few minutes drive from DAE. The house
required extensive renovation and he and his wife were doing most
of the work themselves. When this interview took place, approxi-
mately half of the renovation was complete.

Nigel did not attend the 'no S-3 meeting'; he was at a meet-
ing with a possible customer in London. During the week follow-
ing the meeting, he phoned me and said that there were some
things we should talk about. In the interview (which lasted
nearly three hours not including lunch) we discussed parent
company planning, the 'new' organization chart, American-British
relationships, the earlier, unsuccesful acquisition attempt, and
the 'no S-3 meeting'. Here I will present some of the dialogue
about S-3 and the 'no S-3 meeting'. We exchanged pleasantries,
after which Nigel began the discussion with no prompting[1].

Nigel: I _think_ I know what was said [at the 'no S-3 meeting'] but
people seemed to have heard different things...[I am pretty
sure that] Bob said that Stavertons was here and everything
else and I think he showed the organization chart - probably
without any names...I don't think it had any names, but people
jump to conclusions with a reasonable amount of accuracy...Some
other things he said about S-3, that it's potentially costing
us a lot of money. [pause] One of the things we were criticized
for [at the last plan presentation] was our asset management
...This year's corporate sensitivity is asset management. One
must keep up on the corporate sensitivity...So there is some
expectation that we should get better [asset turnover as time
passes]...But one of the things we're looking at is having a
£192,000 building sitting empty...So Bob went to [the managing

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1. The underlines in this dialogue signify Nigel's spoken
emphasis.

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director of the holding company] and said 'Maybe we don't need to go into S-3.' and [the holding company director] being concerned with asset turnover, [was receptive]. Six months ago, it wouldn't have been received well.

Nigel:...So the current plan is to move everything down to [Wiltshire] except Avionics which will go somewhere or the other. I don't know where yet...So that was the logic behind the decision [i.e., 'no S-3']. How we will move people around is still very much up in the air. No final decision has been made, but I think the reality is that we won't move into S-3. There's a building down at Stavertons and we can use it...So we can recast Stavertons, clean it up and make some conference rooms. We can get by...[and we] can logically concentrate some businesses down there...So a lot of our planning is up in the air.

Mike: Clearly, asset turnover was known to be low when the decision was originally made? Wasn't that just part of the investment for growth?

[Note: Although I am speaking to Nigel as 'manager', he does not necessarily respond in that 'role'.]

Nigel: Sensitivities to numbers change over months. What makes a number suddenly acceptable?...They're measurement devices...[It's] like pain. When is pain acceptable? When you cry? or scream? or just say ouch? One of the objects of the exercise [of planning] is to sharpen people up...It was unfortunate that [asset turnover] happened to be in the spotlight, [but] that's the way things go. The asset turnover is only optical. [But] the reality [behind the number] is that we have a building that's empty. In the past, we thought of [S-3] as our future, but it wears thin. [pause] We have no plan, really, to fill it. [pause] You're [we're?] scraping the excuses barrel.

[The theme is that there is a number called asset turnover which seems to have a problematic and shifting relationship to 'reality'. What remains unclear to me is whether the number brought reality to Nigel's attention or whether the corporate spotlight did and the number was simply there or whether Nigel recognized the 'reality' and only used the corporate spotlight and the number to express it.]

Mike: I had wondered for about 2 weeks about the move. [Since the 'no S-3 meeting', I feel comfortable revealing my suspicions.] I really couldn't see enough to fill 13,000 square feet of factory and 7,000 square feet of office. But no one seemed to be thinking along those lines. No one was asking who would actually go to S-3 and if it was a good idea. Why?

Nigel: Well, no one was actually surprised...Their thought processes were going in that direction...I think Bob said, 'The probability is that we won't be going to S-3.' No strong commitment, but it was interesting [to see people's reactions]...My supposition is that everyone will move to Stavertons except Avionics...Bob is staying [here] and there'll be one accountant back here. But apart from that, I think

everyone goes to Stavertons - Matt, me, Nick. [You already know
about the six managers identified to move down.] And that puts
at risk, or rather throws into the pot, basically three people
- Sue, Fiona, and John.

[I get the impression that Nigel is really thinking aloud.
Most of this situation 'broke' on Friday and I do not believe
he has had a chance to mull it over. His present demeanour is
that he is mumbling, digressing, repeating himself, and trying
new phrases. He seems to be working this out in his head as he
goes along. Fiona and John have told me that Nigel will not
tell them what is going on, implying that because he is a
director, he knows. I rather wish they could be here now.]

Nigel: I suspect that John will go to Stavertons. Fiona and Sue
   will probably stay here...So the only others that it affects at
   a personal level are Matt and Me...Bob [Managing Director]
   thinks that I'll [not move house], but I think he's wrong...

Nigel [close paraphrase]: For me there are a lot of things to
   balance before I can make the house decision. The girls [two
   daughters] like a place in the country to come from London at
   the weekend. It's [present house] close to London airports. I
   don't like commuting. [pauses and looks off into space] I
   suspect by spring, I'll be looking to sell...Things change.
   Like now, after being in the house only six months and not
   knowing how much time I'll have to be at Stavertons and how
   much time elsewhere - selling the house doesn't appeal. After
   we've been in the house for another year and I'm commuting
   three hours everyday, selling the house will be in a different
   light.

Nigel: What people don't like is total uncertainty. What we do,
   then, is to get them to think about things like moving, career
   development, staying with DAE, or moving into [another part of
   the parent company]. Think about these things. Throw them
   into the pot. Do you want to move to Wiltshire, bearing in
   mind that you may have to move back [if DAE 'fails']? Throw
   those things in the pot and let him make his choices. If all
   you say is, 'Well, there's total uncertainty' and you don't
   even give him some things to think about, then you're acting
   like you don't care.

   [This poses a question that I cannot answer - Is he talking
   about other people or himself?]

Mike: You said people heard different things at the meeting but I
   don't think we ever discussed that.

Nigel: It [the meeting] was intended not to unsettle people, but
   they became unsettled. [Yes], there were many different inter-
   pretations.

Mike: Can you tell me one of the interpretations?

Nigel: Yes. One was to assume that everyone would stay here, but
   where? [gestures with his hands] Kind of carry on as before
   but move out of Westgate house to some similar office in
   [Berkshire].

Nigel: [He moves back to the topic of his personal decision to move house. He reiterates that there are many things that he must consider.] I must sit in the job for a bit and find out where I'll really be and where I travel to before I make a commitment.

Mike: Yes, well, this will certainly disrupt people who've just settled in.

[I intended to imply that everyone in DAE had built their domestic routine around a job in Berkshire and that not moving into S-3 implied some level of disruption for them all. I made the comment primarily as a general statement of sympathy. Nigel seemed to respond as 'manager'. He did not disagree that people would be disrupted; he disagreed that many had 'just settled in'.]

Nigel: Who? [He raises his voice slightly and explains that the only people who have actually moved house to come into DAE are Matt and himself. He then explains that the company has a policy to reimburse people who move house at company direction. There are several technical categories of 'move' (e.g., first relocation to enter the company, company directed move, etc.) specified in the policy and each has a slightly different reimbursement schedule. He did not address my interpretation of 'domestic disruption'.]

Nigel: Oh yes. That's something I should check, actually. [Goes to get the parent company plans and policies book to check the move reimbursement policy. He comes back into his office and looks through the book until he finds the apporpriate policy.]

Nigel [as he is looking though the book]: It's one of the weaknesses actually. [quoting from the book] The company may provide financial assistance [pause - reading more] with specific financial maximum. [pause] Company having agreed to provide financial assistance. [pause] Actual costs plus 15% of salary plus 12% disturbance allotment.

[Nigel takes notes as he reads. It is unclear whether he is interested in this policy for his own potential reimbursement or for answering the question about the total cost to DAE of moving everyone to Stavertons. He discusses both aspects as he takes notes. It is now 12.30 and we go off to lunch. 25 Oct 83]

I have come to know Nigel well. We have been together in each others' homes, at several social engagements, and in many meetings, and we have spent many hours in conversations similar to this one. We have shared much of a very personal nature and I have come to rely upon him as a trustworthy and insightful 'informant' and 'friend'. Nigel is also a director of the company.

As such, he is a legal and formal 'spokesman' for the organization. When I talk to other people in the organization and attempt to interpret their interpretations of his words and actions, I find that they frequently emphasize their categorization of Nigel as 'director', often to the exclusion of any other interpretive schema. On the other hand, I tend to emphasize the categories 'informant' and 'friend'. Further, when I interact with Nigel privately, he seems to emphasize 'informant' and 'friend' as well. However, when I observe him interacting with other members of DAE, he usually appears to emphasize 'director'.

This is not a greatly interesting empirical finding. People perform differently with different audiences. However, the gross and pervasive conceptual schema reflected in the words 'manager' and 'subordinate' does not shed much light on the phenomenon. Nigel is 'unequivocally' a 'manager'. Yet his behaviour is not unequivocally 'manager-like'. In this interview (and others), he behaves in a manner characteristic of a 'subordinate'. That is, he appears to be confused and curious about what his particular 'hierarchy' allows and expects him to do. He is holding back his own commitment until 'management decisions' become clear. It is a commonplace in the 'structured' world of formal organizations to realize that everybody is somebodys' 'subordinate'. But, if 'manager' and 'subordinate' are used to imply categories of people (He is a manager) then I can delineate no distinguishing characteristics about Nigel. (He is also a subordinate.) I will explore this conceptual difficulty in the next episode by focusing on an extreme case of membership in the category 'manager'. The next episode deals with a clerical member who is formally a 'subordinate', but in some ways behaved as a 'manager'.

Episode E.   A 'subordinate'.

In this episode, I shall outline the emergence of a differentiated role for a member of DAE that was not directly specified in the 'formal structure' of the organization. I shall also demonstrate how the concept 'schismogenesis' can be used to illuminate 'management'. Following the basic schismogenetic concept, I shall categorize two 'typical' forms of behaviour in DAE: 'manager' and 'subordinate'. These typifications are essentially summaries and simplifications of how the members of DAE described 'proper' behaviour by people in these two 'categories'. However, a major shift is necessary from the way that the members used these labels. To the members of DAE, these two categories delineated certain types of people. (He is a manager; he is a subordinate.) However, to apply schismogenesis, I shall use the words to imply certain types of behaviour characteristic of what the members seemed to consider 'proper' examples of members of these categories. (He is behaving as a manager should; he is responding as a subordinate should.) Specifically, 'manager' labels behaviour which indicates qualities such as 'authority', 'initiative', 'decision making', and 'dominance'. 'Subordinate' labels behaviour which indicates such factors as 'lack of authority', 'compliance', 'following orders', and 'submission'. Both of these labels apply to interactive exchanges among individuals and not to individuals alone. A 'complementary' interaction would be characterized by two or more people interacting in a manager-subordinate pattern where one apparently 'gives directions' and the rest 'follow those directions'. A 'symmetrical' pattern indicates a manager-manager interaction and is characterized more as a 'negotiation among equals'.

Here, I shall focus on a particular 'clerical' member of DAE

(Sue) and how, over several months, I came to view her as 'the organizer'. The move to S-3 (even the modest move actually accomplished) required a set of intertwined 'decisions', many of which Sue viewed as properly 'management decisions', hence outside her purview. At the same time, she stated two fundamental beliefs: (1) 'Management decisions' had to be monitored by 'the people who would actually work the system', and (2) There were many details which 'the managers' would fail to notice and hence, someone else would have to take the more detailed decisions. In essence, her position was that the move to S-3 was too important to be left to 'managers' alone. Over the months from June to March, I observed as she put these beliefs into action and came to occupy a subtle and complex 'supervisory' role in relationship to S-3.

This episode is best introduced by a dialogue with Sue's 'boss'. He was a 'senior manager' with two major, formally assigned responsibilities. First, he was the 'senior line manager' of the Defence Division with overall responsibility for the development and control of defence-related contracts (including the computer analysis group). Second, he was the Managing Director's prime technical advisor for the potential computer applications in S-3. In our first interview, we discussed how he would fulfil this latter role. He spoke eloquently for nearly an hour about the difficulties of selecting the 'best' computer hardware and software combination for the new building. He outlined, in great detail, what a 'rational, analytic, and scientific' decision process should entail. This type of decision process was required:

Matt: To make sure that I, we, aren't overlooking something.

Mike: At this point, I'm splitting the move, conceptually, into

the physical move and the computer applications. Is that appropriate?

Matt: They'll overlap, to be sure. Really, I suppose, I just want to have a CPU [central processing unit] in, to be able to handle accounting and finance's problems...Today, we're so small, that we can't really think much about the move. We don't have deputies. [15 Jun 83]

This last statement raises an interesting question. After a long and detailed explanation of the complexity of the decisions required for the new building, Matt tells me that, as a matter of fact, the 'managers' do not have time to think about details of the actual move. He restated this opinion many times over the coming months (as did most of the other 'managers'). The position can be summarized. As a 'manager' with only a 'skeleton' organization, he was working to discover and confirm contracts, consummate the acquisition, develop an organization, write and submit plans, and move into a new building. With so many required activities, he simply could not do everything. Some decisions would have to take a 'back seat'. The move into S-3 was one area that could be given less priority. It was not scheduled until the coming January and, therefore, was not as pressing as many of the other requirements. At the same time, I was aware that the physical move required consideration and fairly long lead-time decisions if it was to be smoothly accomplished. I was curious as to who might be worried about such 'non-pressing', but none the less important, activities.

Five days later, I was monitoring Matt's weekly staff meeting and I found a clue. The meeting was essentially a dialogue between Matt and an engineer/marketer about contracts. However, at the end of the meeting, Matt's 'secretary' (later she told me that she was his 'technical assistant') read the minutes of the 'S-3 working group', the group of non-management members ostensibly

formed to keep the non-management personnel informed of the

Managing Director's decisions. Sue, reading from the minutes of

this group, announced when the move to S-3 was going to occur,

what type of office automation system was to be installed, and

various administrative details of the move.

Sue: Oh, Matt, can I book an hour tomorrow [with you to] talk to
    John and me about S-3?

Matt: Sure.

Sue: We really want to hear about your ideas and those of his
    wonderfulness [the managing director].

Matt: Yeah, we're working this thing. His wonderfulness wants
    to keep tied - I'm not sure why. Maybe he has specific ideas,
    maybe he sees a minefield that he wants to protect us from. He
    has a couple of things going on. He has his committee, you
    know, his office automation thingie, going on.

Sue: Well, after all, it's our system. We're the ones who have
    to live with the system at the end of the day.

Matt: Well, he needs his committee to sell this. I mean, he
    can't just ask for a half a million quid and expect [the parent
    company] to give it to him. So he's working the political as-
    pects of the thing you see. But it's good to show him the
    troops are interested.

Sue: Well of course we are!

    [I noticed that Sue (and presumably the rest of the 'troops')
    are interested in S-3 decisions. While Matt seems to restrict
    the 'troop's' role to 'interest', Sue seems to imply a more
    active role. Further, Matt has reinforced the 'common knowl-
    edge' that the Managing Director does things 'behind the
    scenes' to protect 'us' and that this is considered normal.
    What is not clear is the role to which Sue and the rest of the
    'troops' aspire. Does she simply want to be told of the 'man-
    agement decisions' or does she actively want to affect those
    decisions? I am aware that the 'managers' I have observed are
    not greatly concerned yet about the move to S-3. 20 June 83]

The next day, at the meeting Sue set up with Matt, she and

John asked to talk about the computers and office automation for

S-3. Both John and Sue are members of the S-3 working group and,

because of their particular interest in computers, they have

formed a sub-committee to deal specifically with that aspect of

S-3. In the two and one half hour meeting, John and Matt dis-

cussed the possible computer applications with particular emphasis on software requirements[1]. Also, the Managing Director came in for nearly thirty minutes to present his ideas. Throughout the meeting, Sue was nearly silent. Indeed she asked only one question.

Sue: Do we have any indication of when we need the papers [equipment order forms] signed? I mean it's June and we're supposed to move in by January.

After the meeting, Sue and I spoke briefly at her desk:

Mike: Well, was it a successful meeting?

Sue: Yes, I think so. It was the first time I had a chance to find out what Bob's thinking. You know, we just wanted to present the interests of the people who are going to use the system. It's possible for people who won't use the system to come up with these weird, in-the-sky, ideas. So that's what I was interested in. How Bob was thinking. It was going like I wanted, so I just sat quiet. Otherwise, I would have spoken up. [21 June 83]

Over the next months, Sue repeated this common theme. Whether I saw her in 'interviews' or observed her performing in meetings, she consistently stated the view that there were many important details that needed attention and she did not believe that anyone was fulfilling the required tasks. She questionned both her 'boss' and the Managing Director about details of the move, continually proding them about the necessity to 'sign order forms' and 'specify details'. Her own words culled from various meetings over the months June to September show her position.

Sue: We need to know what we want by about September because we need to order things and that takes time. Not many people think about that...It isn't easy...There are so many questions that you have to ask. For example static-free mats, tables for the terminals, things like that. I mean you can't just say, 'We'll buy a computer and move' and expect it to happen!

Sue was a 'non-management' member of the organization, but her attention to organization-wide issues, her concern that things be done 'right', her often repeated statements that she

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1. In Episode F, I discuss John's viewpoint in greater detail.

felt responsible for 'her' department, and her frequent 'symmetrical' negotiations with 'managers', led me to believe that she was not waiting passively to be told the outcome of 'management decisions'. She indeed did speak up if she thought that such decisions were not appropriate. She acted out a complex and shifting pattern of subordinate-manager and manager-manager exchanges with other members of DAE. She summarized this pattern nicely in her own words.

Sue: So I'm using it [word processor] more for writing letters. You want the company to look nice, don't you? You want the company, and more importantly, your department, to look good.

Mike: [So how's S-3 coming along?]

Sue: Oh, I really don't know how I'll fit into S-3. [We're] progessing. It may not be positive progress, but it's progress...Colin has been offered to go to Stavertons and Harry. My department is being split up. I'll give Bob till Monday before I ask him what's going on.

Mike: Is the S-3 working group dead?

Sue: Well, this is the thing. No, it isn't dead, but we have a different situation altogether. I'll call Jennifer [Bob's secretary] and we'll have to find out. You see, we can't have our meeting until other people [the senior managers] meet. So they have to meet before we can give them our input.

[I read this last sentence many times. It is odd. Why would the managers require input after they have made their decisions? 11 Oct 83]

I am now torn between Model 1 and Model 2. Sue is not in any formal way in the 'managerial hierarchy'. Yet she is essentially carving out a specific area of responsibility and, in many ways, this area of responsibility seems distinctly 'managerial'. She feels personally responsible for monitoring the move to S-3 in detail to insure that it results in a system that 'the people' find appropriate and benefits 'her' department. Simultaneously, I can see her taking independent decisions and waiting for 'the hierarchy' to specify their decisions so she will know what to do. In one sense, she seems to be acting as a member of a

'technical level' waiting for the 'higher levels' to reduce her uncertainty. However, her 'subordination' is not unequivocal. In some aspects of her relationships with 'managers' (for example, specific task assignments, work rules, etc.), her contribution to the pattern is complementary, subordinate - manager. However, in others (such as, ordering equipment, scheduling activities, requesting holding company support) her relationship appears to be more symmetrical, manager - manager. For certain aspects of the up-coming move to S-3, Sue behaves as a manager and the other members respond as though such a pattern is 'proper'. Further, she seems to have the most 'insubordinate' quality of reserving for herself the right to disagree openly with anyone in the organization whom she considers 'wrong' about S-3. Thus, she has many role perceptions which I can only partially bound. Does she see her role as following orders or as filling in the details which the managers overlook or as telling managers what to do or as piecing together a reasonable situation regardless of what the managers do? All appear to be simultaneously true.

Following the 'no S-3 meeting', Sue went through two months of extreme uncertainty. For a time, she did not know where she would work, with whom, or even if there would still be a job for her in DAE. By late November, she was fairly certain that she and Matt would move into S-3 during the coming year. As we discussed her reaction to this turbulant period, she presented her version of her complex role matrix as well as her perception of the 'other managers' in DAE.

Mike: Well, you've certainly come through [all of the uncertainty] pretty well. I mean, you could have done a lot worse.

Sue: I could have come unstuck! [My old section] going away was, I think I told you, disheartening to me and I know it was

to Matt as well...I think it's really a matter of waiting and
seeing how things go. If they aren't going right, then sort it
out...If you've got faith in the company and you know that
it'll get better, then you just hang on. Bob was good enough
to explain it to me personally. If you have faith in the
management right at the top, then you can make it. He [Bob]
could have sent me a memo, but he didn't. He settled it face-
to-face. Things are uncertain, but if you know in your heart
of hearts that things will get better, then you can get over it
even when you're pig-sick of it. [25 Nov 83]

Sue and Simon (from epsiode C) have engaged in very similar
monitoring processes, but they have come to different conclu-
sions. During this time, both Simon and Sue were 'pig-sick' of
the situation and quite uncertain as to what their future would
be. Both portray organizational life in terms of piecing to-
gether details for themselves and their departments after 'man-
agement decisions' have been taken. Simon learned that the
'management decisions' he could expect in the future were outside
his ability to cope. Sue learned the opposite. Simon lost
faith; Sue gained faith. It is perhaps significant to note that
Simon, a 'manager', complained of the fact that he heard about
his future through rumours and memoranda from the Managing
Director (emphasizing a complementary relationship?), while Sue,
a 'subordinate' was pleased to have heard from Bob personally
(emphasizing the symmetrical).

I can characterize Sue's role differenting in a general way.
She developed and reinforced a 'hierarchical' view of DAE whereby
she believed in and accepted a 'transcendent control authority'.
At the same time, she constantly monitored what that 'tran-
scendent' hierarchy was doing. Her 'faith' required continual
support; the 'transcendent' authority was not unequivocally
transcendent. She reserved the right to question, argue, take
detailed decisions on her own, and ultimately, if it came to it,
to refuse to comply. Simon maintained the same rights for him-

self, though he was not as vocal in presenting them. He simply quit the organization.

Sue continued to develop her area of responsibility and expertise in relationship to the move. 'Managers' were, to a large degree, still always concerned with issues 'more pressing' than the the move and Sue took care of the details. It seemed appropriate to me that Sue was among the few people who actually moved into S-3. The move included Sue's reconsituted department and a few staff members. In all, there were a director, an assistant director, two managers, several computer analysts, and Sue taking up offices in S-3. When I arrived on the day of the move, the old office was in quite a disarray. Large plastic bins were strewn about and the members were busy sorting, marking, and shifting.

Sue: Good morning. How's yourself?

Mike: Just fine. Looks like you've been up to something around here!

Sue: A bit. Now get to work. Nobody doesn't work here. Could you move this bin for me? [19 March 84.]

The removal company came at 10.30 and Sue directed them as they took all of the furniture and equipment out of the office. By 12.00, the old office was empty. Matt and I took the last of the computer equipment over to S-3 (approximately 1 mile away) and Sue stayed to check over the old office and lock up. After lunch, we all returned to S-3 to finish the move. The other members of DAE came and went as the removal company unloaded the furnishings. Throughout it all, Sue directed the operation. She told people (including her 'boss') where things should be placed and we all complied with her instructions. By 15.20, the removal company were gone and by 16.00, the operation was fairly complete. Nothing major was broken, all of the goods were located

in essentially the proper places, and 'normal' operations could resume (albiet amid some disarray) the following morning. Within three days, all overt clues of the move were cleaned up.

Sue was certainly not the only person to direct activities for the group that day. However, she was the primary 'supervisor'. She had coordinated with the site services representative, she had drawn the outline for the removal company, she directed the operation during the event, and she followed up on the task to insure that the final clean-up was accomplished expiditiously. For this (admittedly limited) part of DAE, though she was not a 'manager', she was in charge.

In most aspects, Sue's work pattern seemed a form of complementary schismogenesis. That is, as her 'boss' behaved as as a 'manager', she behaved as a subordinate. Sue accepted and supported this form of differentiation. She waited for the 'managers' to take decisions so that she could implement them. At the same time, she monitored the entire situation and her position in it and she did not simply respond to the manager - subordinate differentiation as given. There was an identifiable 'symmetrical' role for her as well. She believed she could and should challenge the general pattern and, frequently, she acted out this symmetrical relationship. That is, as her bosses behaved as 'managers', sometimes, she responded as a 'manager' herself. This symmterical pattern was particularly evident in relationship to S-3. If she came to believe that the managers were 'wrong' (either in general or in detail), she placed herself on equal footing to disagree. If she could not be successful in changing the 'management decision', then she reserved the right to remove herself, fail to comply, refuse to comply, or simply be 'pig-sick'. Sue became part of 'management decisions' by constant

and vocal monitoring of 'managers'.

I must point out a second level of 'symmetry' that is subtly implicit in the original complementary pattern which 'required' that Sue implement 'management decisions'. Sue, as a 'good subordinate', in the main, followed orders. Yet obviously, 'managers' could not and did not attempt to specify each and every detail of instruction necessary for Sue to implement 'their decisions'. Nor could they possibly monitor all of the possible actions Sue might take in accomplishing what 'they told her to do'. Further, given the equivocal nature of human communication, to a degree, Sue always had to decide what it was they were 'ordering' her to do. Thus, in 'implementation' there has to be some 'discretion'. For Sue, to implement other people's decisions always meant (and had to mean) 'fill in the details'. If 'management' behaviour is characterized by decision taking and initiative, then the complementary pattern (manager-subordinate) can be seen as 'one decides - one does'. But, 'to do' the 'subordinate' must engage in actions which are characterized by decision-taking and initiative. Thus, in the complementary pattern (manager-subordinate) there is always an unspoken requirement for a symmetrical pattern (manager-manager).

Sue's answer to a question I asked during a lull in the activity on moving day, I think, sums up her views on the complementary-symmetry relationship.

Mike: So what about this new [micro-computer] you've just gotten? Matt tells me that changing over isn't a big deal.

Sue: Yes. Well, I was a bit worried at first. He came in one day, all smiles, and says, 'I bought you a present.' I think to myself, 'Hello, this means trouble.' So he explained to me that he had ordered a [named computer with specific software packages]. I told him that he could order anything that he wanted, but if it wasn't any good, I wouldn't use it. [19 Mar 84]

For Sue, it was perfectly reasonable for her boss to take such unilateral decisions. It was also perfectly reasonable for her to decide whether or not to make them 'management decisions'.

Episode F: A 'borderline' case.

In this final episode, I shall present data gathered from and about John, a man who occupied a 'role' in DAE's 'formal structure' on the borderline between 'manager' and 'non-manager'. To summarize for introduction, over the months of the research, I first observed John emphasizing a symmetrical pattern of interaction with 'managers' (that is, manager-manager). Then gradually, he changed his characteristic behaviour to emphasize a complementary pattern (subordinate-manager). In simple terms, I argue that, in the beginning, he characteristically behaved as 'manager', but over the space of several months, he learned to behave as 'subordinate'. I will further argue that this was not a mystical process of which he was unaware. He knew about the transition as it was happening, forecast it at the start, and narrated details as the transition progessed.

John came to DAE from a position in the holding company, where he had worked for several years as a supervisor in the payroll department. He had no university degree and he was not a chartered accountant. He had completed a Diploma in Management Studies and was enrolled in the Open University, pursuing a degree. In DAE, his formal title was 'administrative supervisor', although this was a somewhat misleading label. He was the supervisor of a 'group' consisting of himself alone. His company 'grade' was at the supervisory level, but there were no people for him to supervise. At the beginning, there was no chartered accountant in DAE. John was fulfilling much of the accountancy

role with support from the central accounts department of the holding company.

Initially, I was aware that he worked on the seventh floor of Westgate house, in a semi-private office and that he produced many of the financial reports in DAE on 'his' micro-computer. However, I was not initially aware of either his formal position or his personal aspirations. During the research, I came to know him well as we spent many hours talking in many locales. He became a valued 'informant' and a friend. My first detailed observation of John was at the meeting (introduced in Episode E) of the computer sub-committee of the S-3 working group.

At the meeting, Sue and I were seated 'north and south' and both of us were virtually silent throughout. John and Matt (a 'senior manager') sat 'east and west' and most of the interchange at the meeting was between these two. They faced each other with elbows on the table and notepads at the ready in what appeared to be a negotiation.

Matt: What do you gents [sic] want to talk about?

Sue: The computer installation and office automation [in S-3].

Matt: OK. So talk to me.

John: I want to talk about the computer.

Matt: With respect, why do you want to talk about it?

John: I'd like to talk to my people on the 7th floor.

Matt: Is this official or just your initiative?

John: Official.

Sue: This is an extension of Bob's [managing director] plan for a working committee.

Matt: OK.

[Note: John is behaving as though he were in a relatively symmetrical relationship with Matt. Matt, on the other hand, appears to emphasize his superior 'complementary' behaviour. It

appears that John has won the first round of a 'status establishing game' with Matt.]

John: Your committee [Bob and Matt] is above ours and you're a step ahead in your information. I'd like to talk.

Matt [interrupting]: Well, there are many levels of planning and it has nothing to do with rank or importance. Just different things to do.

[Then again, I suspect that Matt has not stopped playing the 'status game'.]

[John and Matt begin to discuss details of 'system requirements' for the office automation design. Matt is a 'technical expert' and provides data about computer capabilities and asks questions about John's specific requirements. Matt also talks about 'his side's' requirements in a computer system (for operations analysis, etc.) John provides details of the various reporting, control, and office automation requirements which must be fulfilled by the new computer system. This pattern of exchange continues for over one hour. They soon quit playing the 'status game' (at least overtly) and settle into specific negotiations and an exchange of ideas.]

John [close paraphrase]: Well, we need monthly accounts and financial data so if Bob wants to know how we're doing, he can put it on screen. So, I'd want the ability to make monthly accounts. So, we need to interface with corporate to get our payroll and sales ledgers, initially, at any rate. Two, we need the ability to do projections so senior managers can take 'what-if' decisions. Three, we need to follow progress of our contracts, and four, [we need] the ability for all managers to see the results of their accounts.

[Bob, the managing director, arrives in the office and enters the meeting. It is unclear if he has come precisely for this meeting or if he stopped by primarily for some other purpose. Matt summarizes what has thusfar transpired and Bob, Matt, and John continue the discussion along similar lines.]

John:...Well, we'll [DAE] have to become an independent financial centre.

[Bob responds with a lengthy explanation of the 'organizational' issues inhibiting DAE's progress to accounting autonomy. Presently, DAE is technically a set of sub-accounts in the holding company and becoming an autonomous accounting entity is, apparently, fraught with 'political' overtones.]

John: If we do it ourselves, you'll get a much better product [than if we continue to rely on the holding company for accounting support].

Bob: They'd disagree and I don't think we need an accounts division immediately. I would put financial packages further down on the list. They're a set of numbers we already get, even if it is painful sometimes. I'd put inventory control higher on my list of priorities. Those numbers aren't avail-

able at the present. Ah, [pause] and customer orders. This
whole business of analyzing customer orders so we can see what
our anticipated billings are.

[Following this statement, Bob mentions that a team of computer
salesmen is coming on 6 July to meet with DAE representatives
and some people from the holding company. The purpose of this
meeting is to begin to establish DAE's specific computer re-
quirements for S-3 and to examine one set of commercially
avaiable systems.]

John: Who's going to the meeting on the 6th?

Bob: Open. It's a communication exercise to find out what we
   should develop. Sort of like developing a flow chart. What we
   need is a bloody great piece of paper about a yard square
   showing all of the possible interfaces. Do you two [Matt and
   John] suppose you could design this?

   [After some discussion, it was decided that Matt and John could
   have such a chart ready for the 6th.]

Matt: So we need to have a product by the 6th. Can we do it [to
   John]?

John: Yes, I suppose we can.

Matt: I'll ask again.

John: We'll set our minds to it.

Matt: I'm not trying to challenge you. I need an answer.

John: Yes! [turns to Bob] Ah, could we prepare this prior to
   the 6th and show it to them [the computer salesmen] early?

Bob: Yes, I think that's a good idea. Let's tell them before-
   hand [what our needs are] so they can tell it honestly. [He
   rises and begins to put on his jacket. As he departs the meet-
   ing, he says to Matt] Can we get together tomorrow for some
   real work? [His emphasis.]

Matt: Yes, sure. [Bob departs.]

   [John rolls his eyes and pounds his head ritualistically
   against the wall. 21 Jun 83.]

   John behaved throughout as a 'manager'. He spoke of 'his

people', 'his requirements', and his opinions about DAE develop-

ment. I watched him negotiate with a 'known senior manager' and

the Managing Director. Further, he secured an invitation to and

a role in a meeting with the 'rest' of DAE management on 6 July.

In the main, he performed and was responded to in a symmetrical

pattern. However, his performance as 'manager' was not met with a totally 'symmetrical' response. Periodically, Matt responded to John as though he were attempting to assert 'dominance' of status. However, John did not shift to a complemetary response. As Matt emphasized 'manager', John responded with increased 'managerial' behaviour.

Of further note, Bob has publicly announced his personal desire to explore the development of an inventory and customer order control system. It is unclear whether he has 'given the order' to actually develop these two systems or simply suggested that these types of systems would be a good a framework for the upcoming meeting. As it turned out, Matt apparently assumed the latter while John assumed the former. However, this would not become clear for several months. As the meeting closed, Matt and John agreed to develop charts displaying design specifications for presention on 6 July. These charts were to display proposed requirements for four systems: inventory control, customer order control, word processing, and electronic mail. John was to decide the actual requirements and draw the charts; Matt was to advise John on the process.

At this point, I assumed that John was actually DAE's accountant and a member (albiet not very 'senior') of 'management'. Immediately following this meeting, John and I had the following exchange:

Mike: It's difficult for me to find out about meetings like this one, but it sure helps my research. I'm glad I didn't miss it.

John: Give me your number and I'll ring you when I find out about them so you can come. They're hard for me to find out about sometimes, too. So, you let me know too, OK? [21 Jun 83 - Close paraphrase recorded approximately 3 minutes afterwards]

At the time, I thought John's request was indicative of his

position on the 'fringe' of mangement. Later, after I heard
similar statements from most of the 'full-fledged managers', I
came to realize that who attended meetings and what was discussed
were important sources of information for us all. Further, I
came to find that we all needed a set of contacts to find out
when meetings (particularly 'ad hoc' meetings) were occurring.

John's activities fell into four basic categories. First, he
was a technical advisor on micro-computers for all of DAE. He
had spent a great deal of time learning various software packages
(such as, spreadsheets, data base programs, etc.) and he actively
monitored the literature and attended trade shows to keep abreast
of new products that were available. By June, there were four
micro-computers in the various areas of DAE and people from all
over the organization relied on John to answer specific questions
about their machines. Further, he initiated purchase orders for
new products based on his own research and he submitted requests
to the Director of Business Development. Most of these requests
were quite modest (under £250) and were approved without ques-
tion. Also, when a group of computer salesmen came to 'size'
DAE's computer need, Matt passed the job to John who did it alone
(27 June, 1 July, 3 Aug 83). Second, John was the Managing
Director's main accounting contact until 1 August when a
Financial Director began to work at DAE. John collated data,
prepared plans and reports, and followed up on specific questions
for the Managing Director and all of the business unit managers
(4 July, 26 July 83). Third, John was active in 'socializing'
personnel. Several new people (including the Financial Director,
his new 'boss') spent their first few days learning about DAE
accounts and procedures from John (5 Aug, 5 Oct 83). Finally,
John was active in developing the Managing Director's 'requested'

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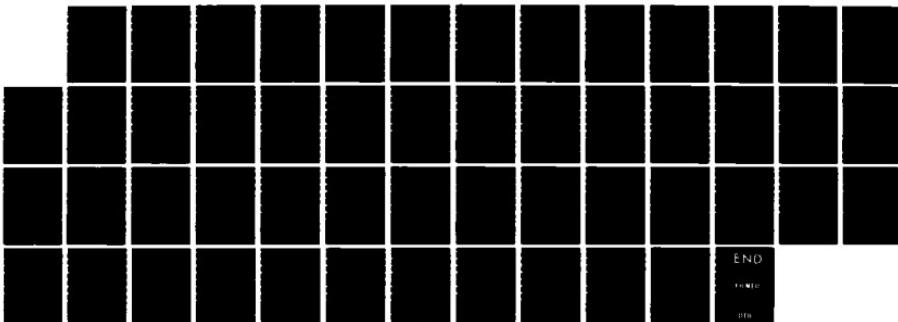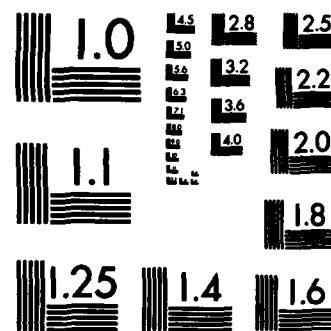
MICROCOPY RESOLUTION TEST CHART

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inventory control system on the existing micro-computer. Although the new 'integrated system' was never developed, John purchased software, learned how to use it, and installed an inventory control system (14 Sept, 29 Sept, 2 Oct 83).

I shall refer to some of these roles in more detail as the episode continues, but an overall picture should be clear. DAE was a small organization with many problems similar to a larger organization. The 'managers' were quite busy concentrating on a wide range of details other than 'administration'. None the less, many 'administrative' decisions had to be taken and much 'administrative' work had to be accomplished. John was, among others, filling this void. Indeed, it seemed that John was a prime actor in this area.

Over the next three weeks, John accomplished two major tasks. First, he began to work on the inventory control system (as he believed Bob wanted). He purchased a commercially available package and began to accumulate the data required to install the system. Second, he worked extensively to develop the charts for the forthcoming meeting with the the computer salesmen. John took this task very seriously. He developed his ideas during evenings and at the weekend, made practice presentations to me, and met several times with Matt to hone the system specifications and the presentation. During these meetings, Matt was apparently only half-heartedly interested in the presentations (27 June, 1 July, 4 July 83). Matt had previously mentioned to me that he really only hoped to obtain a single, larger computer with some applications software to 'solve accounting and finances' problems'. Consequently, he appeared to believe that this presentation was 'really' accounting's (hence John's) problem. Further, during these weeks, Matt was negotiating the first contract to be

signed in his division. This modest contract (approximately £150,000) was signed during the first week of July and was part of the 'real work' to which Bob had referred. For Matt, this was much more important than John's presentation.

The meeting with the computer salesmen took place, as scheduled, on 6 July and ran from 14.00 to 19.30. It was attended by a team of three computer salesmen, several representatives from the holding company staff, and from DAE, the Managing Director, the Director of Business Development, a manager from Avionics, Matt, John, and me. The meeting began with a long slide presentation by the computer salesmen and a question and answer period. Then John and Matt made the DAE presentation, each taking the floor in turn. During all phases of the meeting, John appeared to be a 'full member' of the DAE group. He asked questions, made suggestions, and presented ideas. Two days later, I asked him his opinion of the meeting.

John: It was very political, you know. There were three parties – DAE, who want a computer to do a job; [the salesmen] giving their pitch; and the corporate types trying to recover their costs [by convincing us to use their 'in-house' accounting programs].

Mike: If the corporate software is adequate and avaiable, why not use it?

John: It isn't flexible enough. Our aim is to go with the electronic office. It's pointless to have half the system on screen and half in brown manila envelopes...I've compromised a lot on that [points to 'his' micro-computer] and I'm not prepared to compromise anymore. They can say that we're a young division and we can change, but we can compromise ourselves right into a corner...The next step, we're off to see it in place [i.e., observe an installed version of the computer salesmens' package]. Leicester or somewhere else. I don't know if I'll be invited. [pause] Plus I'll have a learning curve with Nick Drew [newly hired Financial Director who starts work on Monday.] We may have to do the accounts right here, so I won't be able to spend all my time with the new computer. [8 July 83]

Over the months June and July, John had been acting out a symmetrical pattern with the managers of DAE, mainly in relation

to 'administration' and the computer for S-3. John was called on to develop plans, present these plans in 'management meetings', and to take the initiative in filling out details after receiving only the barest of guidance. In the main, the other members of DAE reacted as though they accepted John in this activity pattern. However, John predicted that this would not continue. On 1 August, the Financial Director for DAE (Nick) would begin working and John anticipated that much of his hitherto 'appropriate' behaviour would no longer be so. He was not pleased.

John: I've been a management accountant and a cost accountant. I don't want to be an accountant any more. Too many [accountants] have no behavioural skills at all. Accountants are a menace.

[I wonder – is it is significant that his new 'boss' is a chartered accountant? 13 July 83]

John: A lot of job satisfaction I get is from working with Bob on plans. The new bloke [his new 'boss'] will take all that over. So you'll see me lose a lot of satisfaction. That's the way businesses evolve. When it starts, the indians are much closer to the decision making, but as it grows, then someone comes in to do it. Unless you're being actively promoted, you end up moving down. You have to be very careful not to let it ride on your mind. [pause] You'll probably notice that I become more morose, because I'll be doing more boring jobs. [15 July 83.]

John provided an example to support this assertion. Up to this time, John worked closely with the directors. Specifically, he produced reports and circulated copies to all of the 'higher managers'. The Managing Director reviewed these reports and, if he wanted further details, he sent a memorandum to John asking him to research the questions and prepare an explanatory report. The Director of Business Development also relied on John to gather planning input from each of the business unit managers for consolidation into the overall DAE plan. A week before the new Finance Director started working at DAE, John and I were discussing these specific tasks.

Mike: Is this the kind of thing that the new director will do in the future?

John: Yes. All I'll do is provide him with the information and brief him and he'll talk to Bob and then come back and tell me what to do. You'll see me lose a lot of job satisfaction. [26 July 83.]

John anticipated that he would essentially continue to do the work, but he would be excluded from any direct relationship with Bob and the other 'senior managers'. The new director began on 1 August and spent the first few days of his employment 'learning the DAE system' from John. On 5 August, the new director spent the entire day with John discussing the current planning cycle and the various recurrent reports. One 'problem' for DAE over the previous three years was that the business unit managers did not submit 'good' input for the planning process. During the parent company planning cycles, the Director of Business Development asked (through John) each of the business unit managers for financial forecasts in his area for the next two years. If the business unit managers submitted 'good' sub-plans, then all that was required was to combine all of the inputs into an 'integrated' DAE plan. Typically, the business unit managers either ignored these requests altogether or they submitted sloppy, uninspired documents. During planning cycles, the Director of Business Development and John struggled without much success to improve the inputs from the business unit managers. John, Nick, and I discussed this situation during a lull in the new director's 'orientation'.

Mike: Why are they reluctant to show you their plans?

Nick: Some of the problem is central [holding company] accounts. You see, central accounts give the businesses the data and then the business unit managers have to give their input to John. Because central accounts and John are in a different reporting situation from each other and from the business unit managers, it gums up the works. [John has no formal authority.]

John: That's one interpretation. My interpretation is that the
  business unit managers are the most important people in my
  life. They keep me in money. It's really the business unit
  managers and me against central accounts [who are slow getting
  the original data out to us]. [5 Aug 83]

I now have access to three possible 'explanations' of the
empirical 'fact' that the business unit managers do not submit
their plans on time or in a 'proper' format. Nick implies that
the difficulty lies with a mismatch of formal authority; John
puts the blame on central accounts; I believe that the business
unit managers are struggling to find contracts or even contract
areas and the very last thing they could do is codify 'rational
looking' plans. However, in relationship to this episode, the
more interesting question is the role-differentiating aspects of
the exchange. John clearly states an interpretation of his
position as 'symmetrical' with the business unit managers ('we').
Nick, on the other hand emphasizes the complementary relationship
('different reporting situations'). This was the last time that
I heard John play so loosely with the concept 'we'. Over the
remainder of the research, 'we' became 'they'; his symmetrical
aspirations transitioned into complementary relationships.

John did not come to the Leicester meeting with the rest of
us. The list of attendants from DAE was identical to the pre-
vious 'office automation' meeting with this one exception: Nick
was there in place of John. The meeting which John did not
attend apparently affected him a great deal. He was noticably
more critical after the meeting.

John: If things follow their normal pattern, then the decision
  will be made by the higher ups and we'll have to implement it.
  [They've already decided which machine to buy.] They're just
  going through the motions really.

Mike: Why waste all the time and effort just to go through the
  motions?

John: It's politics, isn't it? They want to be seen to have

looked at other machines so further down the road, people can't
embarrass them by asking how they did it. If they go through
the motions, they can always show that they looked around and
found [this] system was the best.

Mike: Oh.

John: By the way, I was over [at the holding company personnel
department] and they were bleating about safety and security on
S-3. Evidentally, Bob and Nigel do not coordinate. Bob says
one thing and Nigel says another. [pause] We're going into S-3
with lots of people expressing opinions, but no one taking
decisions. I wouldn't bother to come to any [working group]
meetings any more, if I were you. It's a waste of time.
[pause] I have a feeling that we'll have a mess. What burns
me is that we'll [S-3 working group] be the ones criticized for
not having foresight. But what can we do when they don't have
their act together?

[I notice that John has learned about 'them' from what he heard
other people have learned about 'them'. He knows Bob and Nigel
well; he has worked closely with them for over a year. Yet,
the opinion of the people in the holding company personnel
department apparently matters to John as he develops his own
opinion. 19 Aug 83]

The complementary differentiation between 'we' and 'they' is
now stark and John implies a specific description of 'they'.
'They' are arbitrary, not to be trusted, and do not 'have their
act together'. 'We' will be scapegoats for 'their' mistakes. In
actuality, from all of our conversations over the past months, I
have come to believe that John views the organization in 'we-
they' terms. What has apparently changed in the past three weeks
is where he draws the dividing line and on which side of that
line he presents himself.

Over the next several months, John continued to work dili-
gently on the computerized inventory control system. This pro-
ject was quite large and entailed between 80 and 100 hours of
work by John. After he installed and mastered the computer
software, he completed several stock-takings and typed in nearly
1000 inventory entries. Much of this work was accomplished over
September and October and took more and more of his time. In-
creasingly, John presented himself to me in terms of this project

and his general micro-computer expertise. At the same time, he
was called on by others (notably his 'boss') to perform an ac-
counting role. In terms of what I had previously learned about
John, I inferred that, for a variety of reasons, he believed
(perhaps rightly) that as an 'accountant', he was doomed to a
'subordinate' role, whereas, as the 'micro-computer expert', he
could attain some degree of symmetry. A role 'in computers' was
his aspiration.

John: Nick says that we probably won't be buying [the planned
    computer system]. Stavertons have a stock control and a pay-
    roll system. They'll have to keep those machines going to get
    utilization...So, there won't be much computing at S-3. I
    guess, I'll have to get my house ready to sell, if I want to
    stay with DAE. [19 Sep 83.]

John has presented a statement of his perceived (or aspired
to) 'role.' He is 'important' to DAE because he is the computer
man. Further, he has hinted at a 'test' to see if he is attaining
this role. 'Will I move to Stavertons?' From my position, this
appeared to be John's last opportunity to re-establish a sym-
metrical relationship with the 'managers' in DAE.

By the middle of November, John had 'data' about this situa-
tion. He told me that the inventory control system on which he
had worked so hard, had 'died a death'. It was ignored by the
avionics managers and Bob was apparently not interested in the
cost data which the system generated. After John had developed
the system (in response, he thought, to Bob's request), he dis-
covered that his efforts had been 'wasted'. Further, a new 'real
accountant' was to be hired to assist the Financial Director in
consolidating the accounts and it was apparent that John would
remain in Berkshire to assist him. He would be 'subordinate' to
this new person.

Thus, John 'learned' that his computer expertise was not

valued and that he would not be moving with 'the team players' to Stavertons. He was angry and he characterized his situation in terms consistent with a view that he had been 'locked out' of a more symmetrical set of relationships. When he was not invited to particiapte in the 'Strategic Planning Meeting' at Bournemouth, he was angry. On the day that meeting was taking place, I spoke with John in his office.

John: I'm the only one here who knows how [DAE] works, and I had lots of strategic planning in my DMS [Diploma of Management Studies]. I'm just really pissed off.

Mike: It seems to me that one of the first things you told me was that you'd lose job satisfaction as DAE developed.

John: Yes and I told you that knowing about it in advance wouldn't make it any easier to take.

[Note: John does not have the formal title 'manager', thus it is curious that he should expect to be invited to a 'managers only' meeting. Only knowing him over the past months, observing his earlier performances, and watching peoples' reactions to his performances makes it clear to me why he is 'pissed off'. 22 Nov 83.]

By January, John portrayed himself strongly as a 'subordinate' in a complementary relationship pattern with 'them'. He stated that his role in DAE would be simply and only supporting while 'they' would be the managers. His interest in and commitment to DAE was waning.

Mike: So what's your job now?

John: Doing the legwork for the new accountant - teaching him about the company system. [pause] There are plusses in this as well. [pause] It's a nice quiet job without much challenge. If I work it out right, I can finish M103 [Mathematics module in the Open University]. [11 Jan 84.]

John had learned a great deal about his 'proper' role in DAE. Much of what he learned came from 'communication' about S-3 and the proposed computer applications in the new building. Thus, he learned about himself and the organization through S-3.

He and I also used S-3 to 'communicate' about DAE, general-

ly. Like all human communication (a Model 2 assumption), our
actual words were equivocal, thus the dialogues below have both
'literal' interpretations and a metaphoric quality. John told me
the 'blind dwarf' rumour.

Mike: So what is this disasterous news about S-3?

John: Well, you won't believe it. Sean told us that he just
    heard we're moving into a mezzanine floor that has ceilings at
    5'9" and no windows. He told me yesterday about five minutes
    before you rang me.

Mike: You're right - I don't believe it.

John: Well, Ted's [Avionics Director] trying to get out of it.
    But evidently, it's pretty well set. I don't mind the ceiling
    so much as the lack of natural light.

Mike: You aren't 6' 3".

John: True. I'm 5' 8 1/2".

Mike: Surely they won't approve that. I mean I _am_ 6' 3". What
    if I _were_ a customer and I wanted to buy 10,000 bits from you.
    Would you expect me to stoop all day? [Emphasis in the speech.]

John: Yes, that was one of the questions. [pause] You'll prob-
    ably see adverts for hiring all of the blind dwarfs in the
    country to work here. [8 Feb 84]

In my learning 2 about DAE, I had come to see the organiza-
tion in terms of 'negotiations' and 'adaptations' where the
various actors, regardless of formal 'rank', discussed and nego-
tiated issues. I had come to see the 'top managers' commited to
the general notion of developing DAE, but facing as much 'com-
plexity' and 'confusion' as everyone else and nearly always
uncertain about specific details of what would or should happen.
I had come to expect people to 'toss out ideas' either for dis-
cussion or to 'hold something constant for a while', so they
could get on with something else. However, I did not come to
believe that the members of DAE were either stupid or particular-
ly arbitrary. I could not believe John's rumour. My view of the
organization was distinctly 'non-hierarchical'.

John disagreed. Throughout the day as we discussed other topics, the 'blind dwarf' rumour surfaced again and again. I gently argued with John by asking 'probing' questions, hoping, I think, that he would discover how 'silly' his position was and come to agree with me. John became more and more vehement in his criticism of 'them'. Finally, as we were eating lunch together at the holding company canteen with a woman clerk from the central personnel department, John retold the story to her and I could stand it no longer. I found myself using John's 'hierarchical' language to refute his position.

Mike: John, I just wouldn't worry about it! Ted has enough [parent company] 'rank' that if he doesn't want to move into it, then he won't move into it!

John: Well, you certainly read the situation differently than I do.

Mike: Ted's still on the policy committee, isn't he?

John: Yes, and [name] is still the holding company Managing Director and the chairman of that committee. If he says move, we'll move.

[Woman from holding company]: Yes. He's the boss, isn't he?

[Close paraphrase, recorded approximately ten minutes later. 8 Feb 84.]

My learning 2 framework, which sees organizations 'politically', is powerless to convince John that his 'hierarchical' view is 'wrong'. Indeed, under Model 2 assumptions, this is not surprising. John and I have witnessed similar, but not identical, events over the previous months and we have brought our own previous learning, aspirations, and interpretations to the situation. I am not surprised that our 'shared meaning' is, in fact, a disagreement over interpretation. John had probed his social situation in his own way, noted reactions of other people, and reacted to those reactions. Further, as a sophisticated, self-monitoring actor, he relied on his previous learning to react to

his _anticipations_ of what the reactions of others would be. In
this particular situation, John told me that he aspired to
change his role in the organization and my critical observation
of him over an extended period supported this view. I watched
him attempt to nurture a symmetrical pattern with others in the
organization, come to believe that this pattern was not possible,
and subsequently move to a strongly emphasized 'complementary'
pattern. In the end, he was disenchanted and angry.

This of course might imply a question: Who was to 'blame'
for John's disenchantment? If we were looking at human com-
munication as though it were an explicit exchange of 'meaning'
and the organization as though it were 'controlled' by a hier-
archy, then we might, for example, point to a failure of 'the
managers' to perceive the talent and aspirations of a potentially
valuable employee. We could say that 'they' squandered an op-
portunity. Likewise, we might argue that John was given his
chance to become a manager and was found lacking.

However, both the question and the possible answers 'exist'
only in Model 1. In this chapter, I must reject the question as
well as an interest in the potential answers. I _can_ report that
I never heard any 'manager' complain seriously about John's
performance and that I never heard any 'manager' explicitly speak
of John as an 'aspiring manager'. By all accounts, no one
'heard' John 'ask' to become a manager, no one evaluated his
potential, and no one explicitly decided that he should not
become a manager. Rather in the web of reactions to reactions,
John 'simply' learned his role as the others learned theirs. To
ask or be interested in who (either individual or group) uni-
laterally 'caused' the situation, we would have to step back into
Model 1. Of course, under Model 1, we may not have known of this

situation at all, because John never actually spoke words requesting the job.

CHAPTER 8

CONCLUSIONS AND LIMITATIONS

We find ourselves, then, in a paradoxical situation, and
doubtless many readers are inclined to dismiss any such line
of thought - on the assumption that there must be perfectly
good nonparadoxical solutions to any problem. But there is
much we can learn from Derrida provided we do not close our
minds in advance to the possibility which so much of his work
explores: that the exercise of language and thought involves
us in intractable paradoxes, which we cannot escape but only
repress.

(Culler 1979, p 156)

The two models I have offered, with their common intersection
in the thesis of the dominance of the expressive over the
practical in most human affairs and for most of human history
are proposed rhetorically. If they make the world intel-
ligible for you, gentle reader, as they have done for me, we
have shared interpretations with which we can construct a
reality.

(Harre 1979, p 237)

8.1 INTRODUCTION.

Organization theory is a confusing and confused area of

social research characterized by work based in many contradictory

paradigms (Burrell and Morgan 1979). It has been a fundamental

objective of this thesis to remain, firmly, in an interpretive

frame and thus to not contribute unduly to the paradigmatic

confusion. This objective has been approached by explicitly

treating assumptions and conventions as assumptions and conven-

tions and by highlighting (theoretically and empirically) dif-

ference and contradiction. This effort has not been altogether

successful: hidden and unexplored assumptions and conventions

remain. (For example, what is the effect of the assumption that

the English language is an appropriate mode of discourse for this

thesis? What is the effect of the assumption that DAE, as an

'organization', is an appropriate focus for social research?) In
this chapter, we shall return to the paradigmatic starting point
and enfold the thesis itself in a brief, interpretive analysis.

8.2 FIRST THOUGHTS.

At this closing point, there could be no greater inconsis-
tency than to offer a concluding resolution of the various views.
The equivocality which has been so painstakingly elucidated will
not be sacrificed for neatness by a synthesizing slight-of-hand.
The original problem of this thesis was to describe, as com-
pletely as possible, DAE between June 1983 and May 1984 and, in
doing so, to explore various ways of thinking and writing about
organization. Equivocation, ambiguity, contradiction, and lack
of closure are essential parts of that description.

Further, to attempt to reconcile Models 1 and 2 is to give
them both more status than they deserve. They are specific
conventions, assumptions, and concepts - excuses to present the
data in various different ways. Alone neither would allow pre-
sentation of the detail, spirit, emotion, and 'logic' of DAE.
Used together, they allow a more complete view. Each model has
been used to question the other and itself. It is this self-
criticism which has been nurtured. The style of discourse used
to highlight this open-ended conclusion follows closely in the
shadow of many theorists. Among other labels, it has been called
'deconstruction' (Derrida 1974), 'indefinite triangulation'
(Cicourel 1974, p 124), or 'opening a self-closing dialectic'
(Wagner 1978). Closer to organization theory, the pattern of
this thesis is similar to work in political science by Allison
(1971) and Steinbruner (1974) and the exploration of deconstruc-
tion techniques in evaluation research by Gowler and Legge

(1984). It also follows closely the pattern of Bateson's (1958) original fieldwork in New Guinea. In all of these different forms, a common bond exists. The original models are not reified by offering a new synthesis. Rather, it is hoped that the initial models themselves can be discarded once they have served the purpose of discourse.

In this form of presentation, there is a constant interplay between 'objective' presentation and 'subjective' interpretation. The fundamental problem has been, simply, to 'coherently' present the 'incoherence' of DAE. When the organization is viewed from an interpretive perspective, closely, and with strict acceptance of the shifting and contradictory interpretations present with multiple actors, it is not a 'thing' or an 'organism' or a 'machine' or a specified and firm set of norms or an unproblematic set of 'management decisions' related to 'strategic objectives'. It is much more complex. In a sense, it is all of these and yet it is none of them.

Therein lies a central paradox of interpretive organizational research. One can assume that collectives of human beings are, in some way, 'systemic' in nature. However, there is no unassailable position from which a human being can view such postulated 'systemness'. For any interpretation, one can construct other (and often equally 'scientific') interpretations. While there may be a 'big picture', no one seems able to see it. Because of this, interpretive organizational research may appear to be a collection of scientific inquiry, polemics, non-conclusions, and wishful thinking inextricably linked to the assumptions, rhetoric, and conventions of the researcher and the community for whom he writes (Wagner 1975). This vexing difficulty holds for all of social research and forms the basis of

long standing debates over epistemology and ontology. In organization theory, the difficulty is exacerbated. Here the assumptions, rhetoric, and conventions of the researcher (and his academic community) coincide to a large degree with those of 'the researched'. The academic pursuit of organization theory has, for the most part, been characterized by a normative study of management of organizations with a clear objective of making organizations 'better' through 'better' management. (Of course there are multiple definitions of the word 'better'.)

Thus, as Bittner (1965) argues, the starting point for most organization theory has been an assumed social structure and mechanism and, essentially, a 'common sense' concept of organization (specified here though Model 1). Onto this common sense base, is applied the endeavour of 'scientific research'. This establishes an interesting cycle of academic study. As researchers research (learn from the 'subjects') and publish, the 'subjects' (particularly though not exclusively professional managers) learn about organization from what the researchers write. It is, therefore, never clear whether the researcher is studying 'organization' or observing the creation of his discipline (Pondy and Mitroff 1979). In primitive culture anthropology, it is possible (though arguably not appropriate) to treat the 'natives' as 'different'. (I am studying them to tell you about a different culture.) In organization theory, 'we' the researchers overlap with 'we' the organizational actors and 'we' the scholarly community. (I am studying 'us' to tell you about 'our' culture.) There is pressure to translate all organizational research into the common sense format which 'we' understand. This thesis does not conclude with such a translation.

Obviously other versions of Models 1 and 2 could have been

developed. Model 1 could have been codified through any extant theory of organization which exhibits similar stereotyping at the level of the organization and social product (such as, most 'open-system' theories in the common form or current 'contingency' theories). Any model which gives unproblematic status to the organization could serve the same purpose. Likewise, Model 2 has many near-substitutes. It borders on hermeneutics (Palmer 1969), 'structuration' (Giddens 1979), 'ethogenics' (Harre 1979), enactments (Weick 1979), frame analysis (Goffman 1974), and the social construction of reality (Berger and Luckmann 1967). Many schemes of self-critical, interpretive social theory exist (largely outside of mainstream organization theory) and the one used in this thesis obviously has no claim to special status.

Overall, the pattern of presenting DAE through Models 1 and 2 together is offered as an approach to interpretive organizational research. In this, it shares with other seriously interpretive social research in that it is self-admittedly incomplete and consciously limited. Through 'analysis' and 'presentation' certain aspects of the ethnographic record have been highlighted and others have been ignored. Much of DAE has been presented, but certainly, not all. As soon as any overriding consistency of the collective is questioned, the final form of presentation is marked as a partial picture only. To paraphrase Allison (1971, p 245), with this form of presentation, we have taken a 'walk around' DAE with pauses at multiple vantage points. To the extent that this thesis seeks to enhance understanding of how people organize themselves, this 'incomplete' view is no fatal weakness. If there is a central theme here (and it is certainly not an 'original contribution'), it is that people organize themselves based on their own partial picture of the situation.

There is a strong temptation to leave the thesis at this and close now.

None the less, some concluding remarks (if not simple conclusions) are necessary at the end of a thesis. In these final pages, the relationships of the various aspects of the thesis will be discussed. To a degree, the final chapter serves similar literary functions as the first. Each is, in many ways, a summary statement. The first chapter was a statement of where the thesis would go. It laid out, linearly, the problem, the plan, and the chapters. It followed conventions which allowed a delineation of 'method', 'field situation', 'theory', and 'presentation'. At this point, a more accurate (if more complex) summary statement is possible. What lies between the first chapter and here has blurred all lineal clarity. Thus a recursive presentation of how each of the chapters fed (and fed upon) the others to serve the writer is appropriate. This is a (partial) statement of where we have been.

8.3 ON LOOPS AND LITERARY MANIPULATION.

The chapters are written sequentially, but they relate in a much more recursive way. There are many loops 'designed' into the discourse. Obviously, there are specific intentions behind the form of presentation; the reader is 'manipulated'. In this section, some of the characteristics of each of the chapters and the 'intended manipulations' will be briefly outlined.

8.3.1 The Theory Chapters: Two, Three, and Four.

These three chapters serve many purposes. They lay out two complete sets of social theory including lexicon, assumptions, implicit values, presentation conventions, and explanatory frameworks. As a literary device, the definitional components of

'cybernetics' (control and communication) are used as a frame-
work. This framework is merely a convenient thread through which
major distinctions between Models 1 and 2 can be presented. It
was imposed for purposes of discourse. The distinctions
'transcendence - immanence' and 'passive receiver - active
receiver' emerge from the theoretical explication of the two
models.

As important as actually detailing the work of Thompson and
Bateson, these chapters serve as forums for beginning to question
the status of the theories. Each model is treated as an approach
to ethnographic data rather than as an unproblematic explication
of organizations. Some of the limitations and problems of each
theory are made as explicit as possible.

It is critical to point out that the presenation of each
model is intertwined with the other and the total theoretical
presentation is completed prior to any substantial presentation
of the ethnographic data[1]. This form was selected for two main
reasons. First, the models are not to be applied as two clearly
distinguishable entities. Each deals with similar questions and
problems and, thus, they overlap to a degree. The overlap is as
important as the variance. By presenting each together, this
relationship is highlighted. Second, the models are used to
illucidate the same data in different ways. As an ethnographer
collects fieldnotes and begins the growing process of interpreta-
tion, he applies multiple interpretive schemata. The theoretical
speculations grow beside and guide his collection of 'facts'
(Spradley 1979, Birdwhistell 1978). Thus, each time he records
or interprets ethnographic details, he is armed with multiple,

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1. The alternative would have been a complete presentation of
Model 1 theory and analysis followed by Model 2 theory and
analysis. See for example Allison (1971).

and often contradictory, theoretical bases. He questions one interpretation in light of others. Both models are explicated prior to presenting the ethnographic data to guide the reader into a similar process. In the later chapters (with titles Model 1 or Model 2), it was hoped that the reader would bring (at least) two interpretive frameworks to the reading. That is, in Chapter Six, he would be asking Model 2 questions as well as evaluating the presentation in light of Model 1. Similarly in Chapters Five and Seven, multiple interpretive schemes are appropriate.

8.3.2 The DAE Primer: Chapter Five.

Chapter Five is the least self-critical part of this thesis and, thus, is the least honest. It is presented in language which implies that it is somehow not 'analysis'. In fact, it follows specific 'analytic' conventions which are not examined in detail. It analyzes DAE in terms of 'the setting' (a framework specifically imposed to facilitate the discourse) and a 'chronology' (a framework of great stature in western writing which is based on notions of 'time' and 'evolution' that are not explicitly examined here). To imply that either framework is not 'analysis' is deceitful. However, description must begin somewhere and these two frameworks have the advantage of being easily recognizable conventions through which a large amount of detail can be conveniently presented. The deceit is, hopefully, mollified by two factors: (1) this explicit (albiet delayed) admission of the deceit and (2) the fact that the chapter was used to present words and actions which were subsequently reopened to multiple, expressly analytic interpretations. For example, Simon's statement that Stavertons was 'a grotty, little,

under-invested engineering shop' is quoted in Chapter Five
(p 155), Chapter Six (p 226), and Chapter Seven (p 251). In the
context of Chapter Five, the words are used to describe
Stavertons; in Chapter Six, the words highlight a description of
S-3; and in Chapter Seven, the words describe Simon. 'Inter-
pretation' varies with 'context'. Chapter Five is simply a first
context.

8.3.3 Model 1 Analysis: Chpater Six.

This chapter (written in terms of Model 1, but hopefully read
in terms of Models 1 and 2) applies 'glosses' of extremely wide-
spread use such as structure, function, profit, collective coher-
ence, and management. It relies on 'common sense' explanations
of organization to present a great deal of information in a
straightforward format. The primary danger to the interpretive
paradigm posed by this chapter is that it may lead to premature
closure of interpretation. Left alone, Model 1 is a self-closing
form of interpretation. That is, by exploiting widely accepted,
common sense notions of organization, it may appear to offer 'the
truth' (Bittner 1965). This danger is countered by the continual
introduction of self-critical remarks and, again, by explicitly
re-opening the interpretive cycle in Chapter Seven.

Three characteristics of Chapter Six are important:
(1) In the first part of the chapter, a great deal of effort is
expended in describing 'what DAE is not'. The reason for such
effort on a negative task, is that in explicitly describing what
the organization is not, it is possible to point towards what it
might be.
(2) Model 1 inherently ignores a great deal of the ethnographic
record. It relies on the imagery of organizational coherence and

a transcendent hierarchy of control to assume that information gleaned from certain actors, labelled 'managers', is representative of the organization. Strict Model 1 analysis requires much less data than ethnography develops. However, the 'excess data' is important fodder for self-criticism.

(3) Model 1 (hence Chapter Six) begins with a strict reliance on 'management' as an explanatory mechanism. However, as analysis continues, 'management', _per se_, is pushed away. In the search for the transcendent, 'management' is always 'just over the horizon'. This appears to be an important inherent paradox of Model 1. It begins with 'the management hierarchy', but because it reduces all human actors to stereotypic social products, it overlooks individual 'managers'.

8.3.4 Model 2 Analysis: Chapter Seven.

Chapter Seven is the most openly honest of the chapters in portraying its own limitations and is also the least 'complete' presentation of DAE. Obviously, in a mere six episodes, only the most superficial presentation of 'the organization' is possible. Thus, like Chapters Five and Six, it is a gloss over detail. However, while the earlier chapters gloss detail primarily in depth of analysis, this chapter is more guilty of glossing in breadth. This inherent difficulty of Model 2 is somewhat countered in that the episodes were selected primarily for their 'generality'. That is, each portrays processes of interchange and 'learning' which were duplicated quite closely with other actors and other topics. (For example, the final episode was duplicated with nearly all of the 'informants' as they talked about learning about appropriate behaviour. Happily, many were not so discouraged by the outcome as John.) Obviously, Chapter

Seven is also a gloss in depth. The interpretive cycle could have been continued indefinitely and was only arbitrarily ended.

Several characteristics of Chapter Seven are important: (1) Model 2 inherently requires much more data than Model 1. The ethnographic record provides detailed information about, literally, hundreds of episodes from which the writer must select a 'representative' few. Under Model 1, there are clear (though debatable) theoretic reasons to select one aspect of the record over another; selection of those parts which are ignored has theoretical support. Under Model 2, all taken for granted knowledge is marked as a valid area of study. Thus, Model 2 presentation is a search of the ethnographic record for 'good' examples of 'learning', 'communication', and 'reactions to reactions'. The final selection of episodes for detailed presentation follows an arcane process which requires active choice by the researcher. (2) In Chapter Seven much is still taken for granted. The most glaring example of this is the treatment of 'schismogenesis'. There remains the nagging question of what 'meta' factors hold the actors together as they engage in role differentiating behaviour. In several cases, in fact, the question is easily answered. Schismogenesis ended with the actor leaving the organization, hence no 'meta' factors held them together. In Sue's case (episode E), it is hinted that complementary and symmetrical schismogenesis are both characteristic of her social behaviour and are roughly in balance. However, in the final episode, concerning John, it is argued that symmetrical schismogenesis gives way, fairly completely, to complementary. But, John remained (and remains) with the organization and the researcher is left wondering 'why?' Certainly, one could argue

that the massive unemployment inhibits John's search for another job. One could also argue that he 'functionally' removed himself from the organization by his decreased enthusiasm and commitment. However, both of these arguments (reasonable though they may be) are based on taken for granted assumptions about social aspects of John's existence (such as, the nature of work, the limitations of 'job finding'.) Eventually, the analysis returns to the Model 1 assumption that, in our society, people become and remain members of organizations.

(3) The ethnographic record is a collection of countless 'episodes' through which the researcher learned a complex, multi-faceted view of the organizational situation. Thus, these episodes (whether presented or not) are, loosely, generative of Chapter Five and Six presentations. Chapter Seven is a method of making the constructed nature of the summary chapters explicit. It specifically offers multiple and conflicting interpretations of words and actions which are presented earlier.

(4) Model 2 is a convention of discourse which makes the 'controlled' intrusion and social nature of field research obvious. Under Model 1, the researcher is 'outside' the organization; under Model 2, I was part of a set of interactions. Thus, Model 2, allows firm admission of the researcher's observational limitations.

(5) Finally, although Model 2 explicitly rejects 'the management hierarchy' as an explanatory mechanism, Chapter Seven spends a great deal of time on this very subject. This is possible and necessary because Model 2 focuses interest on the interests of the actors. Since they spoke a great deal in terms of management, Model 2 analysis leads to an interest in management with specific interest in how people use the concept to organize

themselves. Thus, paradoxically, Model 2 rejects 'the managerial hierarchy' but, in this case, returns to 'management'.

8.4 ON THE STATUS OF THE TEXT.

Many details have been presented in this thesis as 'facts' which were, subsequently, 'interpretable'. The entire thesis is based on an implicit distinction between 'what occurred' and 'what the occurrences meant'. Clearly, this distinction is problematic. The act of 'recording' is also an act of 'interpretation.'[1] Thus, although a great deal of effort was expended 'to record their words precisely' (see Appendix A), the ethnographic record is not a collection of pure 'fact' which is subsequently interpreted from multiple viewpoints. 'Objectivity' cannot be and is not claimed. Rather, a less grand striving guided the research - what Mead has called 'disciplined subjectivity' (Bateson 1978). By constantly questioning interpretations, using multiple recording methods, collecting 'unobtrusive measures' (Webb and Weick 1978), and periodically reviewing notes and findings with 'the subjects', the researcher's subjectivity is disciplined. Thus, the ethnographic record is 'honest and not incorrect'. By this is not meant 'true'. 'Truth' in social research is itself a matter of interpretation. This variablity of interpretation is demonstrated by the response which 'subjects' frequently offered while reviewing records of previous discussions: 'Yes, that is accurate, but you have gotten it all wrong.'

The limitations of measurement and recording are well established in the philosophy of science. Ultimately, there seems to

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1. Two eloquent discussions of this position are Raffel's (1979) analysis of medical record creation and Cicourel's (1974) work on multiple analyses of what is 'actually' recorded in videotaped interviews.

be no total escape from the interpretive nature of all research.
After as much discipline as possible is brought to bear on the
activity 'recording', 'fact' must be declared as an artificial
basis for research. Protection from 'fiction' and 'falsity'
seems to lie in the conventions of science applicable to the
given 'scientific community' and the integrity of the researcher.
In this general area, this thesis has followed defensible conven-
tions of ethnographic research. Therefore, depending upon the
paradigmatic framework brought to bear in the act of 'criticism',
it can be criticized as ethnography or because it is ethnography.
However, while it can be criticized as one might criticize any
interpretive work, the problematic nature of 'fact' seems a
'criticism' applicable to all 'scientific research'. That this
thesis suffers from this general difficulty - that ultimately
'fact' is created - must be admitted, but need not elicit
apology.

A much more vexing difficulty is brought about by the spe-
cific interpretive theoretical position on which this thesis is
based. It was argued earlier (Chapter Three) that human communi-
cation (a rubric under which this thesis surely falls) is a
process which depends a great deal upon the creative interpreta-
tion of a 'receiver'. The status of words as receptacles of
'meaning' is challenged. To imply that this thesis is above the
problem is to retreat whole-heartedly from an interpretive posi-
tion. Such a retreat would certainly claim increased status for
the thesis, but it would simultaneously undermine all of the work
and, of course, it would be an unfounded claim. Though the
thesis is 'designed' to convey certain 'intended messages',
'meaning' resides largely with the reader and is beyond the
'control' of the writer. This offers a paradox which the text

has repressed, but certainly not escaped. In essence, the paradox can be easily stated. The thesis uses human communication to explore the process of human communication. Thus, it is part of the process it seeks to describe. This limitation can be, more or less overtly, repressed, but not overcome (Derrida 1974, 1978).

To repress the effect of this paradox, words and styles have been manipulated in an attempt to manipulate the reader. Further, as Derrida argues, in doing so, I have also manipulated myself (as indeed 'the reader' has manipulated me). These reciprocal manipulations are not, of course, random. They follow a long-established tradition, carefully learned over a lifetime. The English language, 'social research', 'thesis writing', and 'examination' are all 'part' of the presentation. Thought of in this way, one could easily fall prey to a dismal solipsist belief that the entire exercise is a form of mere self-gratification. This frightening possibility is always nearby in interpretive research (Manning 1983). As the quotation from Harre (1979) at the start of this chapter hints, what keeps the spectre of solipsism at bay is hope that the reader will find some part of the world more intelligible.

Thus, finally, we can say that the text is a statement from various conventional points of view of a complex social situation. It is a description. At the core of the conventional presentations lies: 'fact', though we realize that 'facticity' is problematic; 'interpretation', though we suspect that interpretation is never-ending; and 'explanation', though we are aware that 'variables' and 'relationships' may be of our own construction. We can criticize our own conventions, but in the end, there will be conventions which we take for granted.

8.5 CONCLUSION.

The ethnographic method is a technique for developing a large amount of 'raw data' in the form of recorded words and actions from a collection of actors. The method also leads to a search for multiple theoretic bases for interpretation, hence, ethnographically, one is not satisfied with only one 'explanation' or form of presentation. In this thesis, the work of James Thompson and Gregory Bateson are explicated as two specific models which are used for self-critical interpretation. Model 1 is a very widely accepted scheme onto which the data can be mapped for straightforward presentation. However, though Model 1 is widely accepted (to the point that it's assumptions and values may form a taken for granted version of 'social truth') the interpretations to which it leads are, in fact, interpretations rather than unproblematic statements of fact. Thus, Model 1 must be questioned. Model 2 forms a basis to overtly reinterpret the Model 1 analysis by delving more deeply into the interpretive cycle. Model 2 presentations, however, require a great deal of 'knowledge' before they are intelligible. Thus, Model 2 depends on Model 1 for a general context through which the episodes can be read. In summary, Model 2 provides a format to continually open the interpretive cycle; Model 1 provides closure to allow intelligibility.

Together, these models allow a discourse which offers a portrayal of the difficult thrust of interpretative organizational research - the simultaneous and continuous 'presence' of conviction and doubt, of understanding and confusion, of design and emergence, of clarity and ambiguity, of compliance and creativity.

APPENDIX A

METHODOLOGY: A DESCRIPTION OF THE INSTRUMENT.

It was the best of times, it was the worst of times...

(Dickens 1970, p 35)

The dominant pattern of positivist writing suggests that 'method' be presented separately from 'theory', 'analysis', and 'conclusions'. There is a widespread implication not only that method can be distinguished from the other components, but that there is a fairly mechanical, causal relationship among these various aspects of research. It has been argued throughout this thesis that within the interpretive paradigm, such conceptual delineations must be seen as problematic. Theory, method, analysis, and conclusions are intertwined in such a way that distinctions are only artificially erected. Thus, given the traditional norms of positivist reporting, interpretive work may appear to lack discipline, particularly methodological discipline.

This is not the case. Rather, the difficulty is one of expression. Simply, the methodological discipline which has been brought to bear is not easily expressed in a positivist rhetoric. Unfortunately, there is no widely accepted 'qualitative' rhetoric through which method can be presented. There are some very general guidelines: that common definitions of words such as 'interview', 'participation', and 'observation' are not precisely applicable to ethnographic work (Dingwall, et al. 1982); that 'theory' and 'method' are largely inseparable (Birdwhistell 1978); and that the interpretive researcher should include some

information about his background and training. (Crick 1982).
However, within such panoramic agreement, qualitative method
remains 'a mysterious, half-formulated art' (Miles 1983, p 122).

With this in mind, some additional details of method are
presented in this appendix. Generally, this appendix is meant to
supplement the discussions and demonstrations presented in the
thesis. Specifically, it is meant to serve three purposes.
First, it is a 'technical' supplement required to detail how and
why the various dialogues and details presented in the thesis
came to be labelled 'data'. Second, the appendix is offered as a
brief introduction to qualitative method for those interested in
pursuing this type of work. Certainly, much excellent 'how-to'
guidance exists and has been referenced in the thesis. This
appendix is not meant to replace such books and articles but
merely to offer specific detail about a specific project. Final-
ly, I consider some statement of my personal background, tech-
nique, experience, and interest to be a moral responsibility of
this research. In qualitative methodology, the researcher is, to
a large degree, the research instrument. Some description of the
research instrument is surely required.

The appendix is presented in two parts. In the first part, I
present a brief biographical sketch of myself and use this bio-
graphical data to discuss the research project in terms of 'ac-
cess' and 'theory'. In the second part, I offer a short series
of aphorisms about the methodology with a brief discussion of
each. The aphorisms allow a concise presentation of my experi-
ence in qualitative method and, thus, allow a rapid summary of
the mechanics, techniques, and opinions that I developed during
the research project.

PART 1: BIOGRAPHICAL BACKGROUND.

Some biographical details are presented in Figure A-1. This data is referenced below in discussions about 'access' and 'theory'.

Figure A-1

Biographical data of Mike Wenger - 1985

Age: 33

Degrees: B.S. in Engineering and Management, United States Air Force Academy, 1973.
M.B.A. in Organization Theory and Organizational Psychology, University of California, Los Angeles, 1974.

Career: 1975-1979 - Fighter/Interceptor Pilot in the United States Air Force.
1980-1981 - Instructor/Assistant Professor of Management, United States Air Force Academy.

Accent: American, midwestern.

Long-term research interest: Developing alternatives to extant organization theory.

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1. Access: personal experience.

As stated in Chapter 1, gaining and developing access to the research site was not a major problem. I attribute this 'good fortune' to the alignment of many factors. First, of course, the initial support and acceptance of the senior managers was critical. Had that group of people not initially accepted the proposal for research, little could have been accomplished. Three people were particularly important in this regard: the Managing Director, the Director of Business Development, and the Manager of Defence Systems. All three of these men seemed from the start, genuinely interested in supporting organizational research and genuinely proud of their accomplishments in DAE. They were

the ones who first opened the doors.

However, the support of these three men, while critical, is not enough to explain my general acceptance. Two other sets of contributing factors were certainly important. These sets can be categorized as characteristics of DAE and my own personal characteristics.

A. Characteristics of DAE - The organization was composed of approximately 30-35 people when I first arrived. Of these, nearly half had been hired within the previous six months. In the months after I arrived, approximately ten more people were hired. This rapid expansion of personnel coupled with various project teams from America working at DAE on subcontract, meant that there were many new faces in the organization and that American accents were not uncommon. In this social situation, becoming an unspectacular presence was a greatly simplified task. By the time the research had ended, my DAE career was nearly as longstanding as approximately half of the organization. People frequently assumed that I was, in fact, a formal member of the company. I periodically found that when I thought that I was obviously a researcher conducting an interview, I was being treated as though I were an official spokesman for DAE or as a respected critic and consultant. Indeed, due to the rapid change in the organization and my incessant investigation, after the first several months I, no doubt, 'knew' DAE more completely than any other single member. Hence, it was reasonable for the members of DAE to want to treat me as a good source of information. This was a role I resisted throughout the project.

A second characteristic of DAE which contributed to the access individuals granted me was the nature of their tasks at the time. In the early months of the research, the members of

DAE were primarily engaged in developing contacts among potential customers, creating plans, and administrative support for these two endeavours (see Chapter Six). These tasks required periods of a great deal of activity followed by periods of waiting. There were slack times when people were obliged to wait before contacting customers again or when all the existing orders had been processed or the planning presentation was over. Certainly one reason why people spent so much time with me was simply that they had time to spare. This situation held for the first several months during which time I developed strong contacts and friendships. After January, the task pattern began to shift. Assimilating the acquisition and the expanding orders and contracts began to occupy more of the members' time and it became noticably more difficult to schedule interviews. However, by January my relationships were strong and the members continued to fit me in where they could.

B. Personal characteristics - Qualitative methods demand a constant 'presentation of self'. In many ways, my personal background and characteristics allowed a presentation of myself which was particularly well-suited to DAE. My engineering first degree was an important entry ticket for discussions with the managers, most of whom are (or claim to be) engineers; my aviation experience meant that I was already familiar with much of the technical jargon used by the members; my present status as an 'Oxford student' seemed to reinforce my position as 'serious researcher'; my military background allowed me to share stories with the many former military people at all levels of DAE; and my age placed me approximately in the middle of DAE's age pattern. In short, my background and qualifications were nearly identical to several other members of the organization and with my age and experience,

I was somewhere near the level of 'middle management', a role
specification not far removed from anyone in DAE. Thus, for
nearly all members, there was a role in which they could easily
categorize me that did not jeopardize my overall image as a
researcher. My 'idiot' questions were reasonably attributed to
'American speech', 'Oxford eccentricity', or the actual research
endeavour. I could ask 'idiot' questions without being cast in
the role of 'idiot'.

Clearly there was a serendipitous constellation of factors
which aided my quest to gain and expand 'access'. This very
advantageous 'fit' was largely unplanned. The factors, listed
here so quickly, seem clear only in retrospect. At the time I
could not understand why people accepted my presence so rapidly
or gave of their time so freely.

None the less, they did. Fairly rapidly, I became an accept-
able member of the organization marked only by the queer habits
of asking questions and constantly writing notes. Indeed, I even
became 'official' in several ways. By January, one of the man-
agers and I both noticed that people were beginning to change
their work schedules to talk to me. This was against my implicit
'contract' which was to insure that interviews did not disturb
work patterns. In another case, I discovered that I was refer-
enced on a member's annual self-appraisal form as support for a
positive evaluation. Specifically, a very general comment that I
had made ('Communication is important') was interpreted as speci-
fic praise for the member's actions. ('Mike Wenger said that my
meetings were good.') From such details as these, I came to
realize that I had truely become a member of the social col-
lective, if not a legal member of the company.

2. Theory: A statement of personal interest.

Theory has been treated extensively in the main body of the
thesis. Here I merely offer a personal statement relating the
overall theoretical position to my own development and experi-
ence.

I did not easily or lightly come to my strong commitment to
explore the interpretive paradigm. It is significant, I think,
that I first studied organization theory in the early 1970's
(largely an era of consensus) and first taught organization
theory in the early 1980's (an era of debate). Through that
experience, I discovered that the clarity of structural-
functionalism is much easier for the student than the teacher.
Structural-functional models, which were really all that I had
studied, left me armed with a myriad of techniques for developing
and justifying very specific answers based on very little con-
textual information. The promise of structural-functional organ-
ization theory is that if one knows the models, one need know
very little about the specific situation. When people ask 'What
should I do?', structural-functional models of organization
always generate an answer other than 'I do not know'. Unfor-
tunately, the literature clearly demonstrates that the answers,
though conceptually elegant and theoretically well-supported, do
not always (or even often) lead to the intended consequences.

It was my experience of dealing at this level of organization
theory - people would ask for my guidance and I could always
supply them with answers in which I had little faith - that led
to a shift in my overall theoretical interest from 'answers' to
'understanding'. Thus, the overall foundation of the thesis
derives, at least partially, from my personal experience.

PART 2: FIVE METHODOLOGICAL APHORISMS.

1. The researcher is part of the subject of research.

Whether or not the effect an observer has on what he is studying can be ignored in any research, is a question for philosophers of science. It suffices in this specific case to say that there can be no pretense that I was not part of what I researched. I tried diligently not to impose my thoughts during interviews, I strove to minimize my intrusive presence, and I tried hard to 'hide' my personal opinions. In other words, I did everything I could think of to gather data which reflected the members' schemata and not my own. These efforts were perhaps successful in reducing my influence on the field, but how much and in what way, I cannot know. I have already noted above that the members began to change their work patterns because I was present and I must assume that this is indicative that there were other aspects of DAE which were not as they would have been had I not been present. I am not invisible. My presence alone insured that I influenced the field.

Similarly, at an interactional level, my efforts to minimize 'leading' were not perfect. An example from the ethnographic record serves to exhibit the problem.

It was clear to me that the 'management meeting' held at Bournemouth in November, was important. I was not present at the meeting and I was quite interested in what had transpired. I was greatly concerned that in my questions I might lead my informants into emphasizing aspects of the meeting that I considered important or that I might push them into categorizing the meeting in my terms. I wanted to record their words, categorization schemes, and emphasis. This was in my mind when I began an interview with Matt:

Matt: Right squire. What do you want to know?

Mike: How about 'Bournemouth' with a question mark?

Matt: Because I know you and know what you are interested in,
       I'll forgive you for that terrible question. [29 Nov 83 -
       emphasis added]

Matt then began a long discourse about the meeting and I said
nothing for nearly fifteen minutes. Thus, at one level, I could
argue that I had reduced my influence on his answer to a minimum.
However, his statement, 'I know what are interested in' is
vexing. We had spent many hours talking together. I was famil-
iar with his 'normal pattern'. I expected him to start the
conversation with the words 'Right squire' and I expected him to
be critical of my interview technique. He had done both many
times previously. Indeed, there were many aspects of his speech,
demeanour, and topical interest which I correctly anticipated.
Could he be any less able to anticipate my speech, demeanour, and
topical interest? I think not. Though I worked hard to minimize
my impact, it remains true that interviews and conversations are
exchanges between two equally adept creatures. To this extent,
the 'subjects' must have 'known' what I wanted or expected to
hear.

Therefore, while it is accurate to say that this thesis is
about DAE, it is important to reiterate that I was part of DAE.
While this statement is obvious, it is often discounted, ignored,
or forgotten.

2. Taking notes is a learned skill.

The image of 'apprenticeships' is often applied to quali-
tative research (Mills 1984, Linstead 1983). In this research
project, I felt an apprentice most strongly in relation to the
task of writing notes. Learning to take detailed notes by hand

and subsequently turn those notes into a useful, readable ethno-
graphic record required nearly all of my effort during the first
months. There were three things I had to learn: (1) the actual
physical mechanics of writing notes; (2) developing a routine
whereby the fieldnotes could be easily collected and transcribed;
and (3) structuring the ethnographic record into useful
categories.

A. Mechanics of writing - Any aspiring qualitative researcher
would be well advised to learn shorthand before venturing into
the field. I found that once the research began there was no
time to learn one of the sensible, well-designed systems of
shorthand which are possible. Hence, I developed an idio-
syncratic, ad hoc system to 'make do'. After several weeks of
constant practice, this personally invented shorthand sufficed,
but it was unwieldy and much valuable time early in the research
was lost. Beyond the actual sign system used, one must also
learn to 'disconnect' hearing from writing. At first, I con-
sciously consumed the words of the other and then consciously
wrote them down. After several weeks, I learned to write almost
subconsciously during conversations. Though I always began
interviews with a specific area of interest and I was aware of
the conversational thread generally, I usually did not 'know'
specific details of the interview during the exercise. I had to
read my notes before I could see what I had heard. This is an
eerie experience at first, but it seems to be replicated by many
field researchers and stenographers. Overall, practice for ap-
proximately one month was necessary before I could take notes
well.

B. Routine of research - Several aspects of the method led me to
establish a specifc routine. First, ethnography is not the kind

of endeavour in which one can give a short push to the physio-
logical limitations of the human body. It is a long-term project
and there must be some sense of pace if one is to sustain the
required effort for the whole period. Second, at the same time,
there was a constant pressure to push hard for more data - to ask
more questions, to see more people, to make more notes. Third, I
could only take in a limted amount of information in any set time
period. This was due to the mechanics of note transcription as
much as my own cognitive and physical limitations. Above all, it
was soon obvious that raw field notes cannot be left until the
weekend. They must be rapidly transcribed into a more permanent-
ly comprehensible form.

Within all of these restrictions, I developed a pattern which
roughly cycled around six tasks: generating questions and plans
from previous notes, actually going to the site, taking notes,
transcribing notes into typewritten form, thinking about all that
had happened, and starting the cycle again by generating ques-
tions. For me the cycle length could be varied only over a very
small time range. If I spent less than half a day on site, I
could usually cycle through the pattern and return the next day.
If I spent the whole of a day on site, then I needed another full
day to complete the cycle. I could not cope with raw fieldnotes
from more than one full day of research at a time under any
circumstance. The physiological, technical, and emotional bal-
ance I derived from following this pattern within these para-
meters worked out well. It took me nearly two months of experi-
mentation to learn all this.

C. _Structure of the ethnographic record_ - There are many guides
about how to structure an ethnographic record. Of all, I found
Wax's (1971) threefold reminder the most useful. First, the

details of how you actually structure your record are largely a
personal matter and it is more important _that_ you structure your
record than _how_ you do it. Second, early theoretical specula-
tions will be a useful exercise in generating theoretical specu-
lations but of almost no value in themselves. Therefore, isolate
them for easy disposal. Finally, however you structure your
record, recording verbatim wording from the 'subjects' deserves
more effort than either paraphrasing or theoretical speculation.

Again, it took me over a month to develop a structure for my
ethnographic record. The record was divided into seven cate-
gories:

1. Notes - Specific records of 'facts', mostly dialogues and
physical descriptions which are ordered chronologically.

2. Terms - A list of words used by at least one member of the
organization in a unique or idiosyncratic manner.

3. Theoretical speculations - A personal, running commentary
of various theoretical schemes through which I hoped the
notes 'made sense'.

4. Biographies - Information from any source concerning
biographical and personal details of all of the members of
DAE.

5. Pending questions - A list of questions, with some general
to DAE and some for specific follow-up with individuals.

6. Document file - Any documents I collected about DAE, the
parent company, or the industry.

7. Personal diary - A record of my personal feelings,
activities, and health as the research progressed.

3. '_Theory_' _stands_ _before_ _and_ _after_ '_data_' _and_ _therefore_ _must_ _be_
both _broken_ _down_ _and_ _built_ _up_.

The ethnographic record is a massive tome of data which is
not sorted along sensible theoretical lines. This record is
developed into a coherent presentation through the mediation of
'theory' which comes into play after data has been collected. At
the same time, 'theory', as a conceptual filter, must come before

data. One cannot record everything and at the very moment of observation, some theory must be in operation to select which details will be ignored. In the interpretive paradigm, then, one should not think in terms of 'theory', 'method', and 'presentation' but rather in terms of the circular relationship of 'theory-method-presentation'. In the relationship of 'theory-method' openness is the key. That is, I strove to break down theory as a perceptual filter. In the 'theory-presentation' relationship, closure becomes important. That is, I strove to build up theory as a framework for presentation. In both cases, theory and method are inextricably linked as one experiences the world, gathers data, and transforms it into presentation.

4. Writing is an integral part of qualitative method.

There was no clear signal that I had gathered enough data. Thus, in the end, I arbitrarily stopped going to DAE. At that time, I felt a sense of relief that the 'research was over'. Indeed, several people specifically asked me my opinion of qualitative methodology 'now that you have done it'. Their question and my sense of relief were both premature, since research was by no means complete. At that point, one has only an ethnographic record, some inarticulate notions of theory, and possibly a vague idea of how it can all possibly come together.

Thus, the twelve months of field work were followed, in this case, by fourteen months of rereading the notes, rereading theories, more theoretical speculation, testing arguments, and, above all, writing and rewriting. In more positivist traditions, the assertion, 'My research is done. All I have to do now is write it up.' may be sensible. In the interpretive paradigm, this couplet is a non sequitur.

5. Interpretive research is an act of faith.

I could write this final discussion in terms of the inherent risks involved in doing research based on little prior specification of 'hypothesis' or even 'theory'. I could stress the capriciousness of gaining and developing access. I could chronicle the emotional strain on the researcher as he attempts to live with all of his beliefs in phenomenological 'brackets'. I could discuss the loneliness one feels after spending months with an ethnographic record. In all of these ways and many others, faith that ultimately the research will be of interest is a necessary support for the interpretive researcher.

However, sustaining this overall faith should not be made to sound more difficult than it is. People are interesting creatures. If one spends time with them, one is sure to see interesting things.

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